# DOMESTIC ENGINEERING

*A Weekly Record of Progress in Plumbing, Heating, Ventilation and all Matters Pertaining to Domestic Sanitation.*

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*"Domestic Engineering" says:* Take care of the costs and the profits will take care of themselves. Neglect the costs and there will be no profits to take care of you.

## COSTS AND PROFITS.

THE man who is doing business as a merchant knows that to make a profit he must sell at a price that will first pay all his expenses and then leave him a definite margin for his own effort and risk, above his salary.

The successful merchant is the one who has made a study of his costs and knows what are his expenses.

There has been a lot of talk of overhead expense and percentage of doing business. But the whole problem has not been met in a broad and business-like way.

It is a difficult matter for one master plumber to figure adequate percentages of expense and profit, though he knows that he should do so, when his competitor ignores these essentials and figures only "to get the business."

It is this uncertainty that has to a large extent put the plumbing business into the position of a "game of chance." Too much guesswork—too little real knowledge of the cost of doing business.

Up to eighteen months ago the employing printers of the country were in much the same position. There was no established standard of figuring costs—each plant had its own way—and many there were whose way was that of "get-the-business-at-any-price."

The printer who *knew* his costs could not compete with him who thought he knew but didn't. All were dragged down to a common level, and the rule of the "survival of the fittest" was constantly being applied.

After considerable effort and the interchange of much correspondence, the first International Cost Congress of the craft was held in St. Louis some eighteen months ago. There were interesting experiences related—good feeling was engendered—but the real good was developed as the members discussed costs.

The outcome of this meeting was the preparation of cost sheets and the education of the printers in arriving at their own costs.

Since then the good work has been kept up—meetings of district organizations are held at frequent intervals—percentages for overhead and material are decided upon—and the printers are making money.

You ask, "how does this affect the plumber?"

At the time this movement was started the national organization of the printers, the United Typothetae of America, was comparatively weak and with a limited membership and had given most of its effort to the promulgation of the open shop. The Cost Congress included, besides the United Typothetae, other organizations, such as Ben Franklin clubs, Caxton clubs, and hundreds of individual members.

A national organization of employing printers with the scope and strength of the National Association of Master Plumbers, is hardly probable. Yet a united movement of the many detached employing printers' organizations has accomplished a wonderful work.

A united movement toward a better understanding of costs and profits in the plumbing and heating business would be a work worthy of the best thoughts of the best men in the trade.

Is it not worth such thought?

## THE CONVENTION ISSUE OF "DOMESTIC ENGINEERING."

This year the big convention issue will be dated June 28. As usual in the past, this will be a number big in value as well as size. The important events of the National Convention will be fully covered and it will be replete with illustrations. Advertisers are eagerly grasping the opportunity to tell their stories to an eager audience, and are rapidly contracting for added space.

# Sewage Ejectors in Grand Central Terminal

## Many Plumbing Contractors on Large Buildings Are Up Against the Problem of Shallow Sewers. This Article Tells of One Solution

By JOSEPH GRAHAM

IN laying out the plumbing work in the New Grand Central Terminal, Forty-second Street and Madison Avenue, New York, it was found that a number of the fixtures were below the sewer level, which necessitated the installation of a sewage ejector system for the building to take care of such fixtures. These fixtures are located in the main restaurant, kitchen, dish washing machines, two toilets for employees, barber shop, café and lunch rooms.

They are located approximately 10 to 12 feet below the sewer located in 42nd Street.

The system is composed of three units of the Sanitary Mechanical Specialty Co's. ejectors, illustrations of two of which are herewith given.

Figs. 1 and 2 show the plan and elevation of the largest of these units, which is located in the south pit and consists of three 100 gallon ejectors which discharge approximately once in every three minutes, having a total discharge of 6,000 gallons of sewage per hour; each unit taking exactly 12 seconds to discharge its 100 gallons.

The machines are situated about 70 feet below the street level and have a total lift of about 28 feet to the house drain.

They take care of the waste water from the main restaurant, kitchen, dish washing machines, and two toilets for employees.

These ejectors are installed in a concrete pit and are supplied with compressed air from the central power house. The air pressure used in operating these machines is 35 pounds per square inch.

The plan, Fig. 1, gives a very good idea of the arrangement of the intake header through which the ejectors are filled and the discharge header through which the contents of the ejectors are discharged into the public sewer.

The section, Fig. 2, clearly illustrates how the three ejectors are supplied with high pressure air from the central power station and how they are relieved through an air header.

When the building is finished these ejectors will be completely hidden from sight, the pit in which they are installed being about the lowest excavation in the entire terminal. Access is had to the ejectors by means of a man hole opening above an iron ladder which leads down to the bottom of the pit.

The installation of the two 100 gallon receivers in the west pit is shown in Fig. 3. This unit takes care of all the waste water from the barber shop, cafe and lunch rooms, as all these rooms are below the level of the street

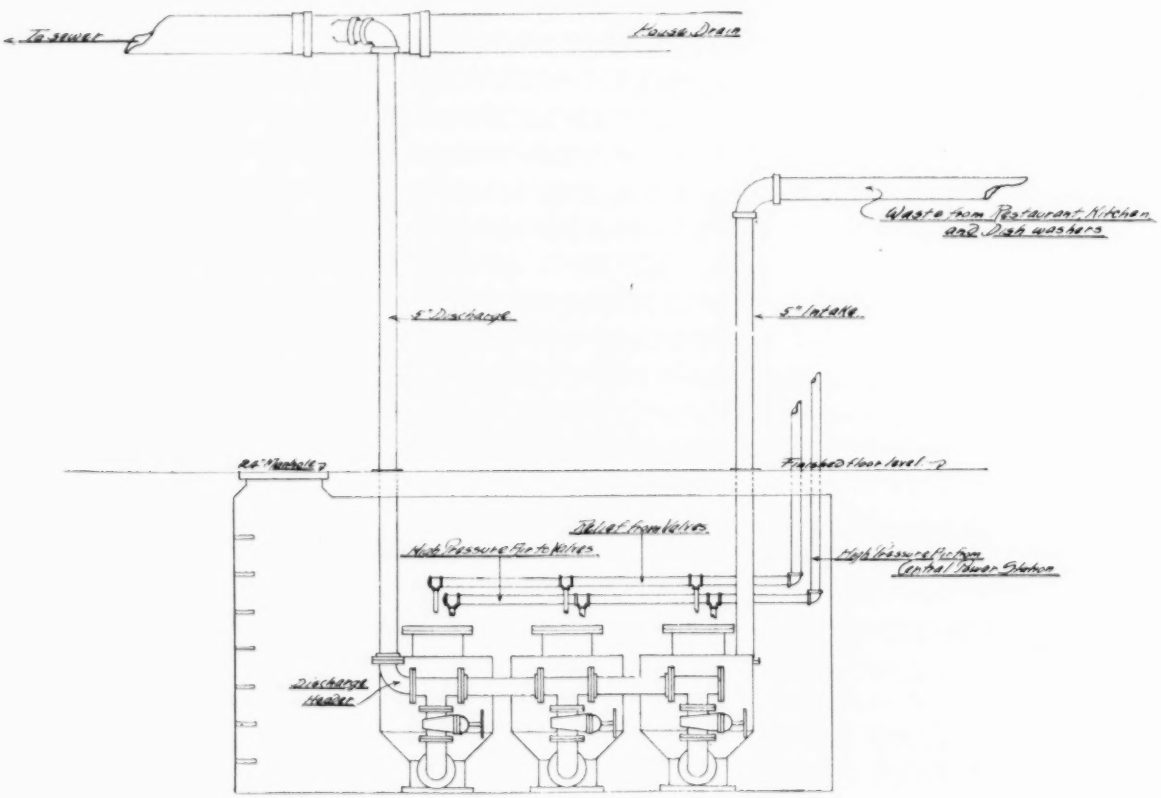



Fig. 2.

sewer and their waste cannot be disposed of by gravity.

Attention is called to the fact that room has been left in this pit for an additional ejector as it is expected that in time these rooms will be continually rushed and may necessitate an addition to the ejector plant.

The third unit consists of a small installation composed of a 50 gallon ejector situated on the track level at Fifty-second Street. This machine has a lift of approximately 40 feet.

It is placed in what is called Track House "T", which is used by trainmen and yard employees as a locker and washroom.

Describing one unit in detail the operation is as follows: The sewage is admitted through pipe connections with a check valve and as it fills the ejector it raises a float inside of same until this float comes in contact with a striking point fastened to a brass rod upon which the float travels. Then as the float continues to raise with the inflow of the sewage, it trips an automatic operating valve at the very moment that the ejector is filled. Compressed air is immediately admitted through the valve in the ejector and forces the sewage out through another connection with a check valve and through the discharge line into the house sewer. As the float falls with the sewage, it travels down the rod until it comes in contact with the lower striking point of same which closes the automatic valve, at the very moment the contents of the ejector is completely discharged. This operation is repeated automatically as often as the ejector is filled.

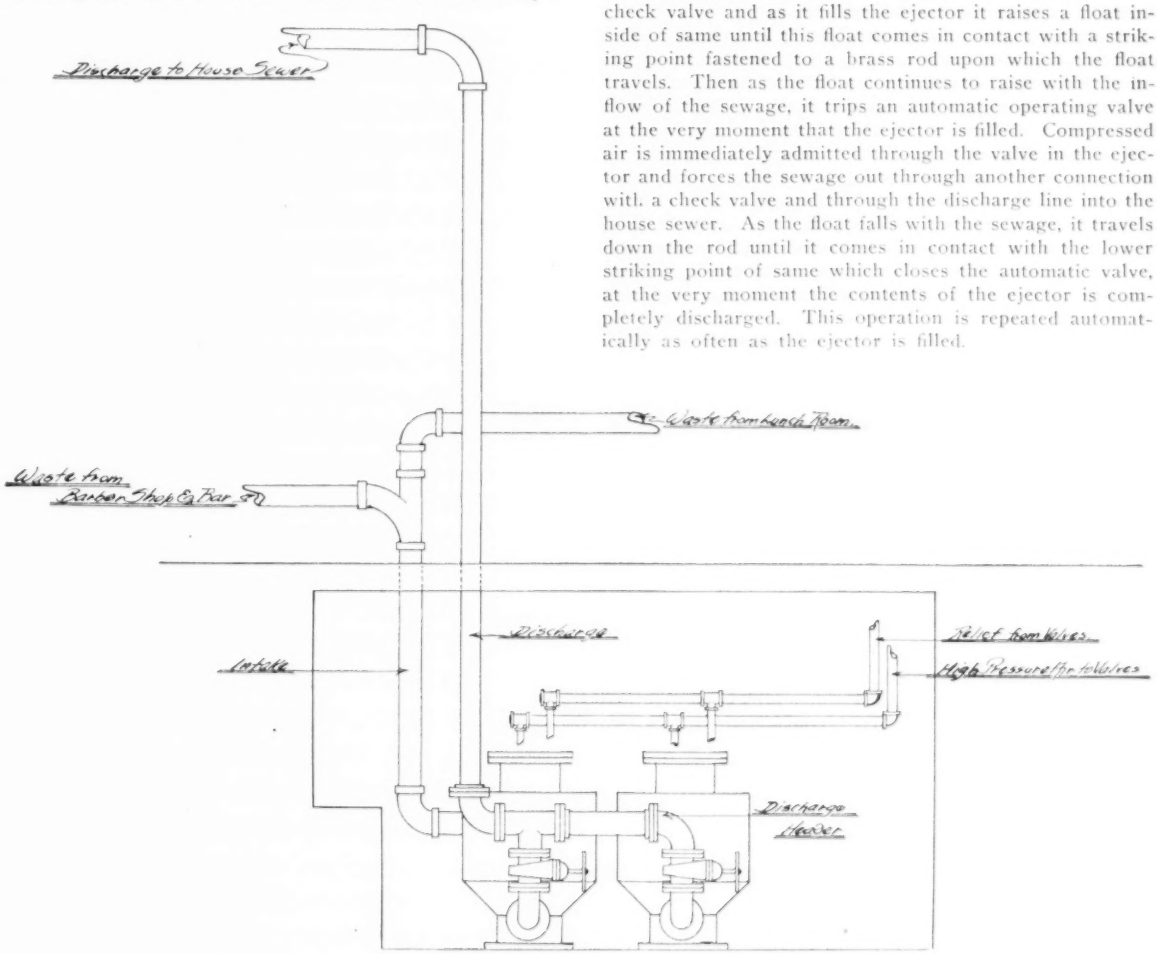



Fig. 3.

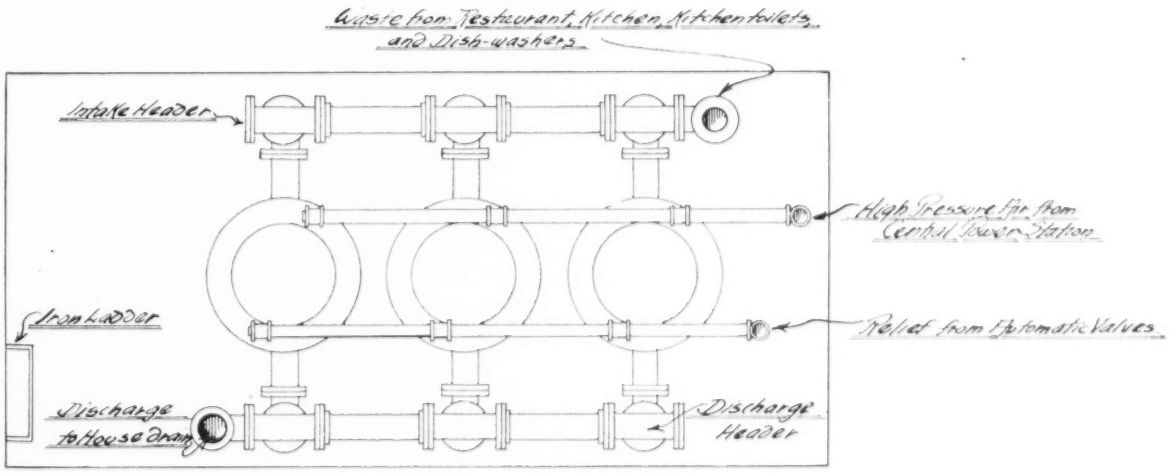

Waste from Restaurant, Kitchen, Kitchen toilets and Dish-washers
Intake Header
High Pressure Air from Central Power Station
Iron Ladder
Relief from Automatic Valves
Discharge to House Drain
Discharge Header

Fig. 1.

# Modern Practice in Heating and Ventilation

## The Various Types of Steam and Hot Water Heating Systems and Their Characteristics Are Briefly But Clearly Explained

By ALFRED G. KING

THERE are two systems of heating in general use, viz.: steam and hot water, and there are several modifications of each of these two systems. Vapor and vacuum heating may each be considered as a distinct system, yet they are really modifications of a steam heating system.

Steam heating may be sub-divided into several divisions as follows:

1. Low pressure.
2. High pressure.
3. Vacuum.
4. Vapor.

Hot water heating may be sub-divided as follows:

(a) Gravity circulation.
(b) Accelerated circulation.
(c) Forced circulation.

There are a number of methods of piping which are known and applied to each system. We shall illustrate and discuss the several methods, and endeavor to make plain to our readers the salient features of each.

In designing and installing a system of heating it should be kept in mind that each system is composed of various parts and appliances which, when properly installed, work in perfect harmony with other parts, and the failure of the system to perform the work as designed may be due to some small fault which a simple change or adjustment will rectify, or to some greater cause which has been overlooked by the designer of the apparatus.

For example, all parts of the system may be ample in size and properly installed and yet the chimney may be insufficient in size and area for the use of the boiler installed on the work. Again, the failure of the apparatus to work properly may be due to the fact that air valves have not been supplied at points necessary to free the system of air—the enemy of the steam fitter—or, if they have been supplied they may not be correctly adjusted.

Yet again, some pipe may not be properly graded, or, as a still greater fault, the boiler may be insufficient in size, or any one of a dozen or more faults may develop. These, and other points, we shall endeavor to make plain

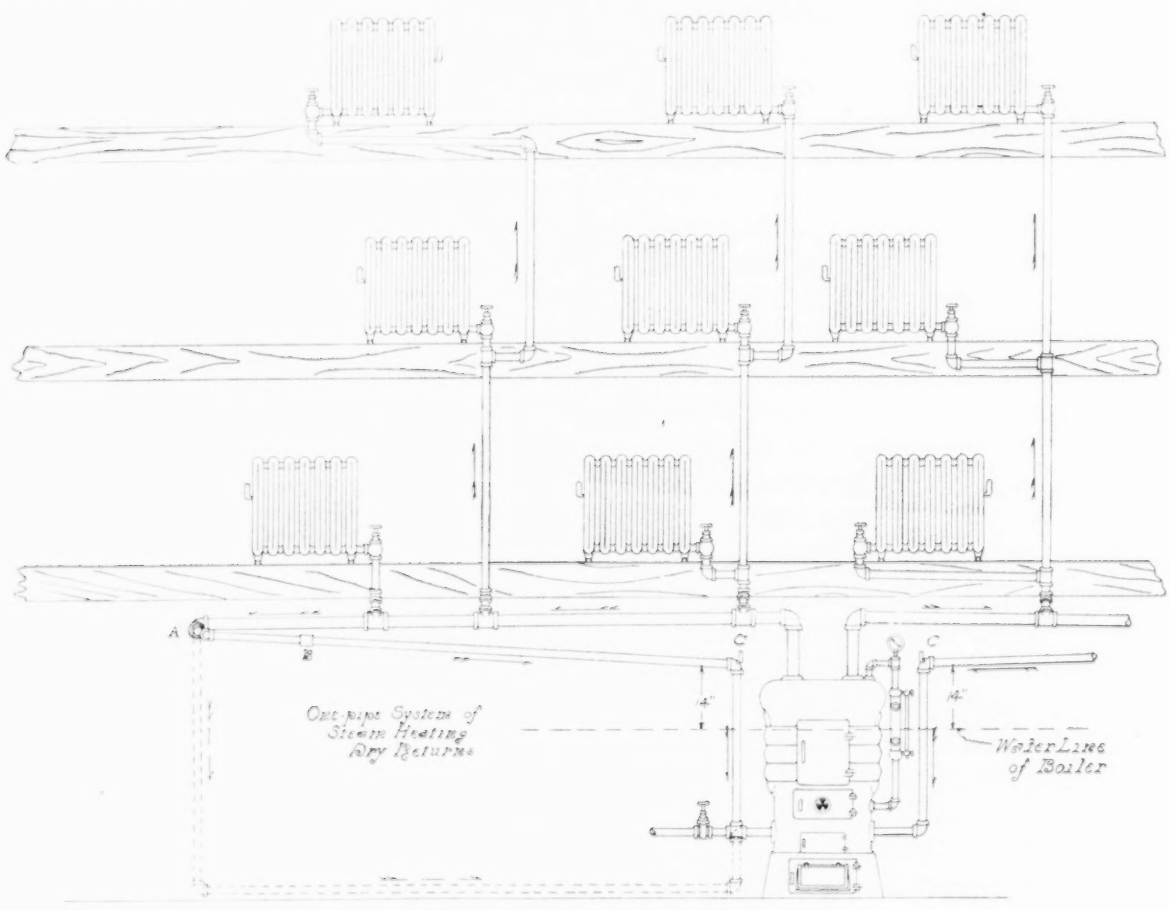



Fig. 1.

as we progress in our discussion and study of the various systems and methods of piping.

**Low Pressure Steam.**

A low pressure steam heating apparatus is usually installed as a gravity system; that is to say, the boiler is located below the level of the steam mains and radiators, the water of condensation returning to the boiler by gravity, hence, such a method is frequently referred to as a "gravity job."

There are several methods or systems of piping for low pressure steam heating. These may be listed as follows:

(a) The one-pipe system with dry returns.
(b) The one-pipe system with wet returns.
(c) The one-pipe system without returns.
(d) The two-pipe system.
(e) The over-head system.
(f) The circuit system.
(g) The divided-circuit system.

Figure 1 shows an elevation plan of the one-pipe system with dry returns; this system is in common use owing to its simplicity and economy.

The steam main or mains (there may be more than one) pitch downward from the boiler. They are carried above the boiler to such a height as circumstances will allow, and from this point there is a gradual pitch downward of at least one-half inch in each 10 feet of length to the end.

At the end of the main two reducing elbows and a short or close nipple are used to form the connection to the return which, as a rule, is two pipe sizes smaller than the main. The elbow on the end of the main reduces one size and the elbow connecting with the return reduces to another size. The return as indicated on the illustration is brought back to a point near the boiler, where a drop is made and the pipe is connected into the return opening of the boiler.

An automatic air valve should be placed on the return at C where drop is made, the elbow being tapped for this purpose. When air valves are used in this position they free the main of air when steam is generated on the apparatus, thus permitting the steam to be quickly supplied to all radiators connected to the line.

Attention is called to the coupling shown at E on the illustration. If a long length of pipe should be connected

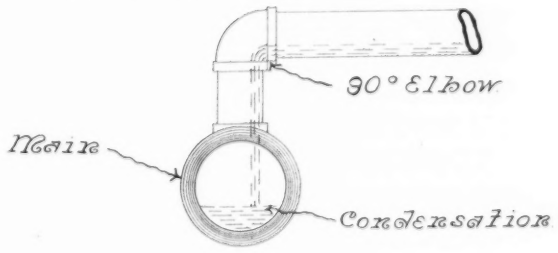



Fig. 2.

into the elbow at point A where the return is started, it would stand at a considerable angle from the main. By employing a short piece of pipe with a crooked thread cut on one end the return may be thrown up almost in line with the main at A, the point of beginning, and thus gain all of the available head-room to keep the end of the return as high above the water line of the boiler as the height of the basement will permit.

The one-pipe gravity system with wet return is also illustrated by Figure 1. The main, branches, risers, and mode of making radiator connections are the same as for the dry return method of piping, the only difference being in the manner of running the return which is taken back to boiler wet as shown by the dotted return line on the sketch.

In the event of installing the job as a wet return system a drop is made with the return at the end of the main (A) to a point below the water line of the boiler, and the return is then brought back to boiler on the side wall or floor of the basement and the location of the automatic air valve is changed from C to A. Either one of these systems is particularly adapted for use in a long, narrow building where but one main is necessary or where two mains, one running in either direction may be installed.

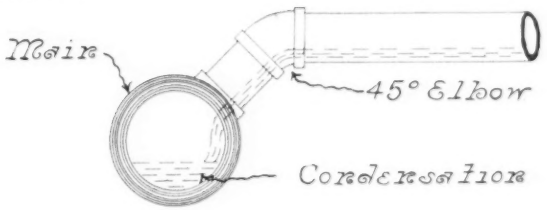



Fig. 3.

Attention is called to the manner of running the risers and the various methods by which the radiators may be connected to the piping; also to the manner of connecting the branches to the main. The connection from main to branches should always, for one-pipe work, be made with a 45 degree elbow and a nipple. For convenience in illustrating this is not shown on the sketch.

The old method of connecting branches with main was by the use of a 90 degree elbow and a nipple connected into the top of the main. Old-time fitters, and many others at the present day, employ this method, which is radically wrong. It is a continuance of the old style two-pipe method. The condensation returning through the branch enters the main directly on top of the steam which is flowing through the pipe, saturating it, and reducing the efficiency of the main. Fig. 2 illustrates this feature.

When the 45 degree connection is employed the condensation enters the main without interfering with the flow of the steam. Fig. 3 shows this style of connection and the advantage of it. In this connection we may state that tests have shown that the reduction in the efficiency of the main where the top or 90 degree connections are used frequently amounts to 25 per cent of its capacity, or, in other words, a main of certain size, 100 feet in length, with 45 degree connections to branches, is as efficient as a main 75 feet long of equal area when 90 degree connections are made to supply the branches.

The end of the dry return at C should never be less than 14 inches above the water line of the boiler if a pressure of from one to five pounds is to be maintained on the system. This is equally true of the end of the steam main at A when a wet return system is installed. The distance of 14 inches between the water line and end of main or return is conditioned upon the riser out of the boiler and the main piping being of sufficient size so that the steam will travel through it at a low velocity.

Doubling the size of a pipe increases its cross-sectional area four times and while it is not necessary that the risers out of the boiler should be made double the size of the mains, they should at least have an area 50 per cent greater than that of the mains if a steady water line is to be maintained on the boiler. We shall discuss this later on when considering the subject of pipe connections.

For one-pipe work the branches as a rule should be one size larger than the risers or connections to the radiators which they supply. There are exceptions to this rule, however, the fitter will make no mistake in always adhering to it.

# Water—Its Properties and Practical Uses

## V.—House Tanks and the Principle of Their Construction, With Suggestions for Increasing Their Efficiency in Practical Service

By F. W. TOWER

### Tanks.

There are two general methods of water supply.

*First*, the *direct* system places each fixture under the same pressure as the street main.

To regulate this pressure to a uniform head a pressure regulator is desirable.

*Second*, the *indirect* method is generally more satisfactory for domestic purposes, connecting the street or other supply directly to a tank or reservoir with the fixtures supplied from this tank.

A ball cock may be used to regulate the supply and a constant pressure is evenly distributed.

House tanks are employed to store water and supply it to the several faucets in the building, when required.

Open tanks, that is, those which are open to the atmosphere, must be located above the highest fixture to be supplied by them, because the pressure within the tank being simply that due to the weight of the atmosphere, does not cause the water to flow through the system.

The water must fall by gravity from the tank to the fixtures.

Wooden house tanks, located within a building, should always be lined with some kind of sheet metal which will not become corroded by any action of the water or atmosphere.

If the water is to be used for drinking purposes, the metal should be of such a nature as to be insoluble in water.

If it is soluble, the water becomes poisoned and the family may be affected by metallic poisoning.

Sheet lead, zinc and galvanized iron are unsuitable for tank linings, because liable to poison the water.

Sheet copper, well and heavily tinned on its inside surface, is found to be very well adapted for lining tanks to contain soft water.

A block tin coating is not insoluble in *all* waters, and while giving excellent results with some waters, it may be just as soluble as lead or zinc in others.

The results obtained by the use of tinned copper for soft water tanks are, however, so satisfactory that this metal is almost universally used for such work.

Care must be taken, in locating a tank, to avoid the vicinity of soil pipe and vent outlets, and all possible sources of contamination by foul air.

All storage tanks should be provided with tight covers to prevent the entrance of dust, etc.

The several pipe connections to a tank should be carefully located.

The *overflow* pipe should be made with a funnel mouth, to convey a large quantity of water without requiring much head to force it.

The *supply* to the kitchen boiler and cold water system are attached at the bottom.

The end of the cold water supply pipe should be extended at least 3 inches higher than the bottom of the tank, thus insuring clean water entering the boiler.

If the tank is supplied from the street main, the supply should be controlled by means of a ball cock and float.

If supplied by a pump or ram the stream should be delivered over the level of the water and the mouth turned downward to prevent spouting or splashing over the side.

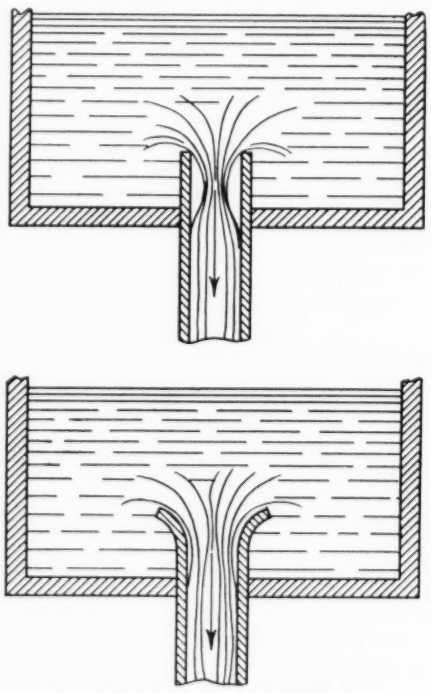
To give notice when to stop pumping a small *overflow* or *telltale* pipe is connected at high water level, and its outlet is placed at some visible point near the pump and operator.

When the tank is filled, water will flow from this pipe, termed the "telltale," and thus indicate the fact to the operator at the pump.

If rain water be led directly from the roof gutters into a tank, the conducting pipe should not only have strainers in the gutters, but should also have a movable basket strainer, of fine mesh lining, on the mouth of the pipe where it can be easily taken off and cleaned.

The coarse strainer in the gutter will keep back leaves, twigs, birds, etc., while the small mesh strainer will catch all the smaller matter which would otherwise accumulate in the bottom of the tank, decompose, and contaminate the water.

All tanks should have a washout cock of large calibre attached to the lowest part of the bottom, so that mud and sediment can be discharged through it to some suitable point; or, the overflow pipe may be taken through the bottom of the tank and extended to within two or three inches of the top, with a hollow brass waste plug and socket connections.



Vena Contracter, or Contracted Vein.

Water under pressure, presses in all directions seeking to escape at the outlet, presses and moves towards the center of the jet, as well as directly outward, so that after passing the outlet, the jet decreases gradually in size for a distance equal to about one-half the diameter of the outlet at which point it measures about three-fourths (.0785) of the outlet, for jet not exceeding 6 inches in diameter.

This point of least dimensions in the jet is technically termed vena contracter (the contracted vein).

. This standing overflow can be lifted out of the ground socket, and the tank then emptied.

The upper end of the standing overflow should have a funnel mouth.

The size of a tank should be determined by the needs of the household or at the rate of 25 gals. for each person, per day.

A tank should not be so large as to allow the water to become stagnant, as a complete change of its contents should be made each day.

The diameter of the overflow should be twice that of the inlet pipe, especially when such inlet has a city pressure.

Water closet tanks are usually fitted to operate special closets and some of the vital working parts are usually patented.

All such tanks should be fitted with a valve that will operate to ensure a copious and effective flush.

### Tank Pressure, Pipes, Diameter, Etc.

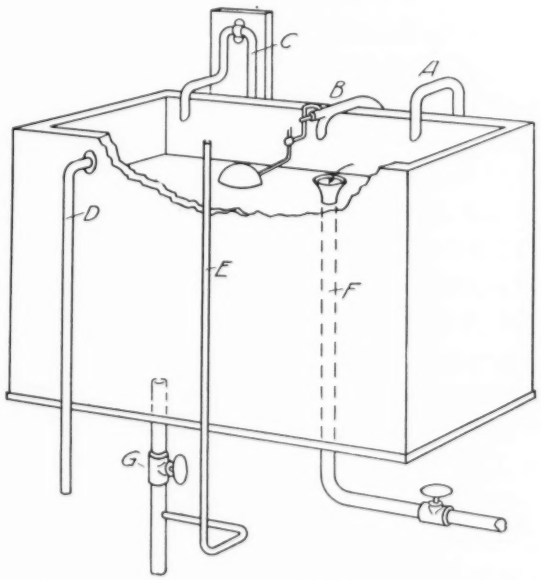
Vertical pipes which *descend* from a tank may be reduced, as the tendency of the water flowing from the tank is, of course, to fall to the bottom of the vertical line of pipe, and flow out of the lower branches.

Although the vertical line is decreased in size, as it descends, it still follows that there is a greater pressure upon the lower branches than upon the higher, as the gravity fall or weight is increased, and to compensate for this difference in pressure, the sizes of the branches upon the different floors should be decreased as they descend.

By this system of distribution a nearly uniform pressure and supply of water can be given to each floor in a high building.

Pipes which *rise* from a service pipe in the basement and ascend to the upper stories, should usually *not* be reduced in diameter until the last branch is reached.

This is because the pressure grows less as the height increases, and to secure a satisfactory flow on the upper floors, the pipes must be large in diameter.




*A*—Pump pipe or rising main. *B*—Ball cock or street supply. *C*—Expansion or relief pipe from boiler. *D*—Telltale pipe, open end located where pump operator can see when tank is full. *E*—Air tube above water level, allows air to enter boiler supply pipe when valve is closed, which shuts off water to boiler. *F*—Standing overflow with funnel mouth. *G*—Cold supply. *H*—Valve for cleaning purposes when needed. This valve should not be closed when pipe is used for overflow.

Even if the head is so great that there is plenty of water and force on the upper floors, if the pipes be reduced in diameter, they will be liable to annoyance from the action of the faucets in the lower stories.

If a faucet in the basement be opened, for example, the flow from a faucet on the top floor, which happens to be open at the same time, will be checked or even stopped.

The cold supply pipe from the bottom of the tank to the boiler and fixtures must be supplied with a shut-off with an air opening or tube, extending above the water level in tank, to allow air to enter when shut-off is closed.

This controls the supply to both boiler and fixtures.

An air tube should connect on the boiler side of the valve to allow all water to waste from the pipe and thus avoid freezing; also drains pipes when making repair.

An expansion pipe should be extended from the highest point of the hot water flow pipe above the water level of the tank to allow steam bubbles to overflow and relieve the pressure on the boiler and pipe, when an excess of pressure exists by overheating.

When a tank is installed the following advantages are claimed over direct pressure:

*Storage*, if water supply in street should be temporarily cut off.

*Uniform pressure*, as the water level is maintained automatically by ball cock.

*Water hammer*, avoided and life of piping materially prolonged.

If desirous of finding the number of gallons of water a *square* or *rectangular* tank will hold, the following rule will apply.

*Rule*: Multiply the length by the width and this result by the depth, the result being the cubical contents of the tank.

*If* the dimensions of the tank are given in feet, this will give the cubic feet in the tank, *then* multiply this amount by 7.48 (the number of gallons in one cubic foot), which will give the number of gallons the tank will hold.

If the dimensions are given in inches, multiply the length by the width and this result by the depth, and divide this result, all inches, by 231 (the cubic inches in one gallon), which will give the number of gallons the tank will hold.

Reducing the dimensions of the tank to inches is the more accurate method of finding the capacity.

If a *circular* tank, square the diameter or multiply the diameter by itself, then multiply this amount by .7854, which gives the area in square feet of the tank, and this amount by 7.48, the result will be the gallon capacity of the tank.

If dimensions are in inches, divide the cubic inches by 231 to obtain the gallon capacity.

For a circular tank tapering, *rule*: Add the larger and small diameters together and find half the amount.

This gives the average diameter, and the contents may be found by the rule for circular tanks.

## PLUMBING INSPECTOR DISCOVER LARGE WATER LEAK.

Plumbing Inspector Alvin Peterson, of Moline, Ill., last week discovered a leak in an abandoned water main. His tests have shown that water at the rate of 400,000 gallons daily had been going to waste, costing the city about $12 a day. A water connection was being made at Eleventh Street and Railroad Avenue, when the inspector noticed a stream of water running under a ledge of rock. Upon investigation, which consumed considerable time, it was found that the leak in the abandoned main was wasting about one-tenth of the city's daily supply of water.

The matter was taken in hand at once and the abandoned main removed, thus closing up the leakage, which has been running probably for several years.

# Questions and Answers

## HOW TO INSTALL A HORIZONAL HOT WATER TANK.

Editor "Domestic Engineering":—We will soon have to set up a 500 gal. horizontal hot water tank, to be heated by a tank heater. Will you kindly show the best connections that can be made, and also the proper method of supporting the tank.

Atlanta, Ga. A. & C.

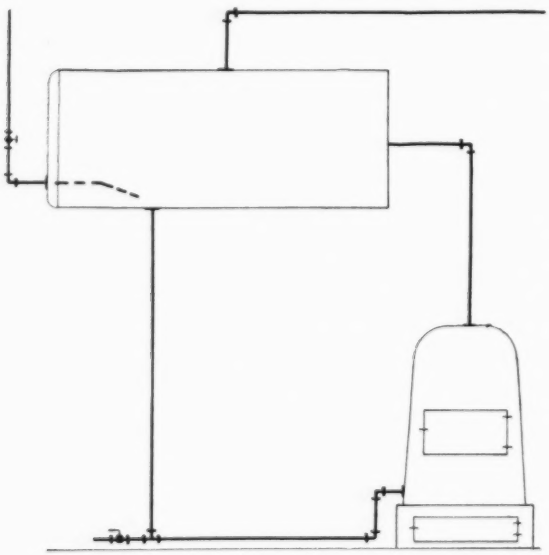


Fig. 1.

As far as the connections for a large hot water tank are concerned, they are not different in principle from those for a common range boiler.

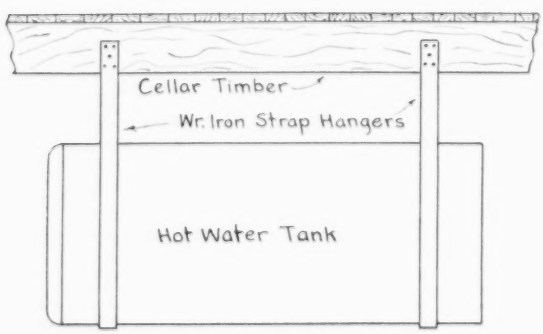



Fig. 2.

In Fig. 1 we show connections which should give satisfactory results.

The most substantial method of hanging a horizontal hot water tank that we know of is illustrated in Figs. 2 and 3, the former showing a front elevation, and the latter an end elevation of the same thing.

The two views show the tank supported by two wrought iron strap hangers at the two ends of the tank, passing entirely around it, each end of the hanger being secured to the timbers above, by means of lag screws.

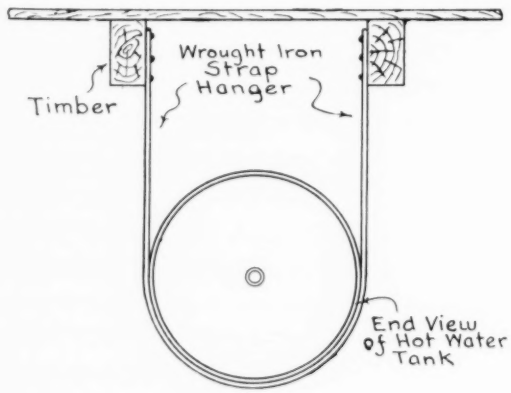



Fig. 3.

## HOW TO CONNECT TWO BOILERS AND TWO WATER FRONTS.

Editor "Domestic Engineering":—Please show in the next issue of your valuable journal the best way to connect two boilers and two water fronts that are on the same floor and close together. I have got to connect up a job of this kind.

Manchester, N. H. Journeyman.

There are several ways in which "Journeyman" might connect his job. We do not know the relative locations of boilers and water fronts, and have therefore shown in our illustrations two arrangements, the two boilers together and the water fronts likewise, and each boiler next to its own water front.

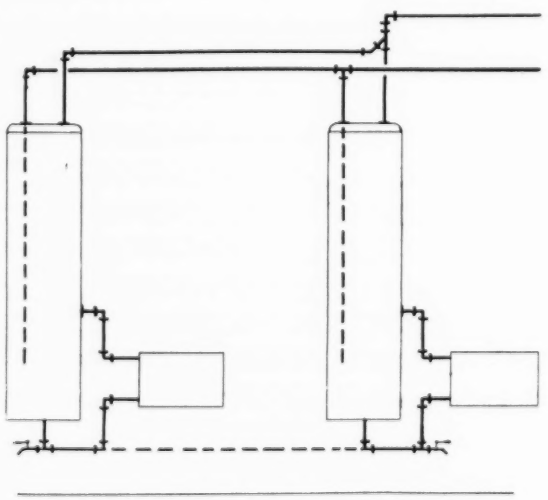


Fig. 1.

In Fig. 1 we show each boiler connected separately to its own boiler, the flow pipes from the two boilers con-

necting together. In this method we show the returns separate, as the work would often be installed. This will not produce as good results if the returns were connected together, as shown by dotted line.

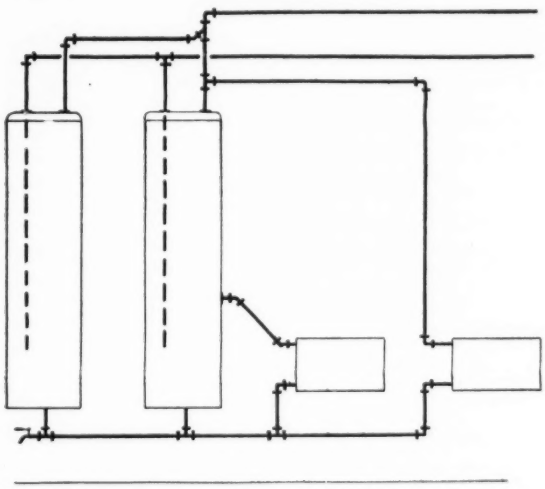


Fig. 2.

Fig. 2 shows what we think to be a very good method, in which one of the water fronts is connected to the top of one of the boilers by means of a quick heating connection.

Fig. 3 gives a method which as far as the range connections are concerned, would often be attempted. We refer to the connection of the flow pipes from the two ranges into the same pipe. This we believe would be a

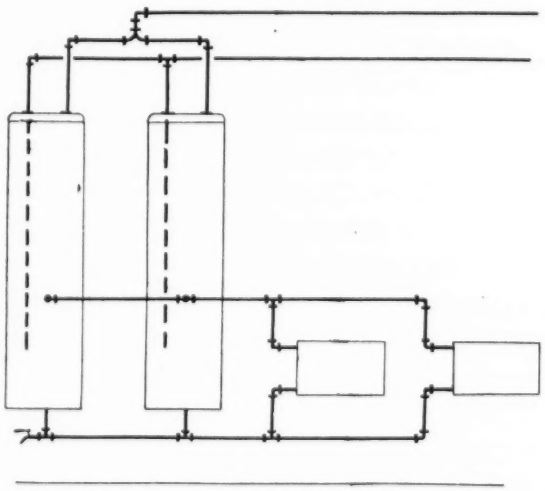


Fig. 3.

poor connection, as hot water flowing from one range would obstruct and tend to hold back the flow from the other.

We would advise "Journeyman" to use the connections shown in Fig. 2, or those in Fig. 1 with the returns connected together.

When the job has been installed and tried out, it would please us to hear which layout "Journeyman" followed, and what results he obtained.

## HOW TO DISPOSE OF DISCHARGE FROM SEPTIC TANKS.

Editor "Domestic Engineering":—We have read in Domestic Engineering at different times, articles on the septic tank, but have seen comparatively little on methods of disposal of the discharge from septic tanks. If you can give us something on this subject, with illustrations, we would appreciate it.

Denmark, Me. S. & T.

There is a mistaken idea that when sewage is discharged from the septic tank, it is in a thoroughly purified state. This is not true. All solid matter has been reduced to liquid, but it is still impure, and therefore could not be discharged where there would be danger of contamination.

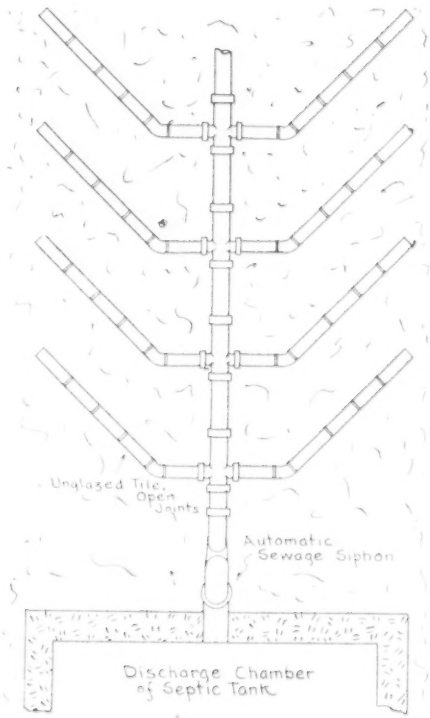



Fig. 1.

Generally the septic tank effluent is discharged into an underground system of loose-jointed tile. If the disposal ground is of light or sandy soil, the liquid will pass out through the loose joints in the tiling, leaching away into the surrounding soil. A certain form of bacteria which exists in light soils, attacks the sewage, purifying it of all harmful elements..

These bacteria are entirely different from those which breed in the septic tank, but it requires the action of both to thoroughly purify the sewage.

In Fig. 1 we show the general idea of the underground disposal method. The disposal should be made over a sufficiently large area to make sure that no part of it is given more work than it can be expected to properly perform.

From the septic tank the sewage should enter a main distributing pipe, as shown, from which laterals extend into the surrounding soil. The main should have tight joints, and have a grade of about 6 inches in 100 feet. With a sharp pitch on the main, most of the discharge

would go to the far end, leaving the nearer end of the system with little work to do.

The laterals are generally 2 inch, of porous earthenware, laid with joints about ¼ inch open. To prevent entrance of dirt into these laterals, it is well to cover the joints with collars made of short pieces of earthen pipe cut in halves, one under the pipe and the other over it.

To prevent any part of the soil being overworked, laterals should be run not less than three or four feet apart. In sandy soil the laterals may safely be run closer together than in heavy soil.

In light soil, 18 inches of lateral will take care of one gallon of sewage, but in heavy soils as much as 4 feet would sometimes be necessary. Eccentric fittings used on the main, will allow the latter to entirely empty. Such fittings are made for this special use.

If the soil is at all heavy, a good plan is to fill the bottom of the trenches in which the laterals are laid, with gravel or broken stone.

Another method of disposal from the septic tank is onto one or more sewage filter beds, although this method

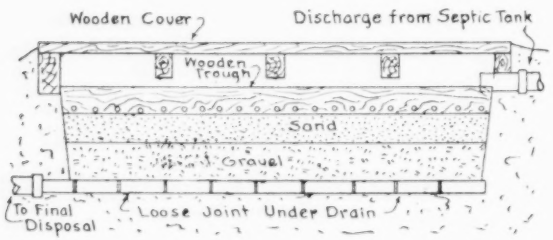



Fig. 2.

is not in such general use as the one described above. In Fig. 2 we show a section of such a filter bed.

The liquid sewage discharges into a V-shaped trough, which distributes the sewage uniformly over the bed, through openings bored in the trough, or by some other similar method.

After the liquid has purified itself by filtering through the bed, it finds its way into the under-drain, from which it is conveyed to the point of final disposal.

Such a bed as this may be built above or below the ground.

## MASTER PLUMBERS AND JOURNEYMEN DO NOT AGREE ABOUT NEW PLUMBING ORDINANCE.

The city commissioners of Chattanooga, Tenn., have before them for action two plumbing inspection ordinances, one drawn by the journeymen plumbers and one by the master plumbers. There seems to be quite a difference of opinion between the journeymen and the masters as to what should be the provisions of such an ordinance. The masters say the journeymen's bill, which is copied from the law in force in Birmingham, Ala., is entirely too drastic and would result in defeating for an indefinite time any movement in that direction. The journeymen, on the other hand, insist that the provisions of the ordinance presented by the masters are too lax and that if it is enacted into law the public would be no better off than at present, when any one who takes a notion he wants to be a plumber can go out and take a job if he can cut the pipe and put it together, regardless of whether he knows anything of the rules of sanitary plumbing.

May 19, 1913.—Annual convention of the Nevada Master Plumbers' Association at Reno, Nev. The officers of the association are: President, Harry Kelly, Reno; vice-president, F. W. Cook, Reno; secretary, B. M. Lewis, P. O. Box 26, Reno.

May 20, 21 and 22, 1913.—Annual meeting of the American Society of Inspectors of Plumbing and Sanitary Engineers at Louisville, Ky. The officers of the society are: President, Thomas J. Claffy, City Hall, Chicago; vice presidents, Dr. H. K. Beatty, Pittsburgh, Pa.; W. J. Yackley, Dayton, O., Charles M. McHugh, Cedar Rapids, Ia., R. H. Ellithorpe, Fresno, Cal., Jas. E. McGrath, Louisville, Ky.; secretary and treasurer, L. J. Lawler, Pittsburgh, Pa.

May 27, 28 and 29, 1913.—The fifth annual convention of the National District Heating Association, at Indianapolis, Ind. The officers of the association are President, R. D. DeWolf, Rochester, N. Y.; first vice-president, J. F. Lewis, Detroit, Mich.; second vice-president, J. L. Hecht, Chicago; third vice-president, E. Darrow, Indianapolis, Ind.; secretary-treasurer, D. L. Gaskill, Greenville, O.

June 2, 3 and 4, 1913.—The twelfth annual convention of the State Association of Master Plumbers of California, at Santa Barbara, Calif. The headquarters of the convention will be at Hotel Potter. The officers of the association are: President, Edward W. Crowell, Los Angeles; vice-president, John Cahill, Sacramento; treasurer, Frederick A. Wilson, San Francisco; secretary, John L. E. Firmin, 120 Page Street, San Francisco.

June 5, 6 and 7, 1913.—Annual convention of the Colorado State Association of Master Plumbers, at Colorado Springs, with headquarters at the Antlers hotel. The meetings will be held in the chamber of commerce auditorium. The officers of the association are: N. W. Haas, Colorado Springs, president; J. C. St. John, Colorado Springs, vice-president; Peter Menzies, Denver, sec'y.

June 17, 18 and 19, 1913.—Thirty-first annual convention of the National Association of Master Plumbers, at Philadelphia, with headquarters at the Bellevue-Stratford Hotel. The officers of the association are: President, Frank J. Fee, 415 West 14th Street, New York City; vice-president, Chris Irving, 1525 Larimer Street, Denver, Colo.; secretary, Charles F. Murphy, 15 Old Broadway, New York City; treasurer, Wm. McCoach, 1607 Sansom Street, Philadelphia.

June 23, 24 and 25, 1913.—Annual meeting of the National Association of Master Steam and Hot Water Fitters, at Niagara Falls, N. Y. The secretary of the association is Henry B. Gombers, 260 West Broadway, New York City.

Waterloo, Ia.—Zook & Bentz, of this city, have secured the contracts for the installations of plumbing systems in the new Church of the Brethren and in the Independence Hospital for the Insane.

Grand Rapids, Mich.—Sproul & McGurrin, of this city, have been awarded the contract for the installation of an up-to-date plumbing system in Johnson Furniture Co's. new factory on Godfrey Avenue in this city.

# Wheeler Strikes Keynote of Modern Business

## Address of Harry A. Wheeler, President National Chamber of Commerce, Before the National Pipe and Supplies Association, Chicago, Apr. 14, 1913

IT is a happy circumstance that the Chamber of Commerce of the United States should have its president's office in a city like Chicago, where it is possible so often in the course of a year to meet with bodies of this kind, its constituent members in their own national conventions assembled, not only to have the honor and the pleasure of meeting the men who gather together from all parts of the country to discuss their own affairs, but likewise to get them in touch for just a minute with the larger phase of the problems that we are trying to control in the Chamber of Commerce of the United States, by bringing all of the organizations, no matter what their interests or location or affiliations, into a common unity with respect to the business problems that now confront us.

I suppose I ought to talk to you this morning, for the time that is allotted to me, on business questions, and I am going to try to relate them, not only to your business, but also to the Chamber of Commerce of the United States.

I am not an alarmist, I am not a pessimist, I am not a radical, but I believe that we are facing today in this country one of the crises which this country must face from time to time in the establishme t of such a form of government as that under which we live, and in demonstration of the fact that democracy ultimately may be regarded as a safeguard rather than a menace to a government such as we have established. The crisis of today is an economic crisis. The crises of the past have had to do with political and governmental conditions; but that which we face at this time is the serious crisis of a menace to the commerce and industry of the nation, through misunderstanding and through misrepresentation and through lack of sympathy and co-operation between the great masses of the people, and the people who have to do with the industrial development of the country. That is a subject in which we as a chamber are vitally interested; that is a subject in which you as a national trade organization should be vitally interested.

It will do us no harm to cast back over a few years to see out of what this has grown. Not very many years ago this country was not an industrial nation. Our industries were home industries. We had no great manufacturing plants, we had no great manufacturing organizations. We were making even but a small part of the products that we consumed. We were making none at all for distribution throughout the world. We passed through the period of manufacturing in the home, through the period of territorial expansion and through the period of agricultural development into the period of industrial development, which today is just as much an era as any era that will ever confront this nation, which we cannot avoid. Work as we may to turn the population back to the farm and into agricultural pursuits until the era of industrial development has run its course, our work in that direction will have no success beyond that which ordinarily comes to a movement which has birth in a minor way and gradually unfolds as conditions force people back into another mode of life.

This industrial era of ours has been on for many years, for three decades at least. It has found its expression, as you will bear me out in your own business, in the various degrees of organization; first, the individual as a controlling factor in a manufacturing proposition; then as the proposition became larger, two men joined together and they became a co-partnership or a firm. Later on it seemed undesirable to carry on business in the form of co-partnerships, and the corporation came into being. Then the corporations began to come together in combinations, and so we have been building up and pyramiding our present industrial organization.

Back in the earlier years the people of this country were not much interested in this industrial development, as to how it should go on or under what form it should exist. Fifty years ago the people of this country were keenly anxious that corporations representing the carrying trade of the country should be expanded along all possible lines; that they should be given every possible encouragement leading up to rapid and widespread construction. In the building of our transportation systems not only did the government give large grants of land aggregating many millions of acres (an area larger than the State of Pennsylvania) to the railroads for their construction, but likewise they gave the use of their bonds for the construction of the Pacific lines. States issued bonds and bought stocks. Municipalities throughout the entire country vied with each other to see how much they could contribute, not how much they could take away from our transportation systems, and individuals joined with the municipalities and the states and the nation in contributing to those things which would lead to the building of transportation systems; and as a result they grew very great and very strong and the mileage increased with marvelous rapidity. The world has never seen so great an increase in the production of railroad mileage as has been shown in this country in less than half a century. With the wonderful growth of our transportation systems, due to generous public aid, our national commerce in national manufactured products has kept even pace and its railroads have returned value received for every dollar contributed to their development in increased taxable value to states and municipalities and to cities; in the increased valuation of the remaining land to the United States government, for every acre of land that was given as a railroad grant for the construction of a piece of railroad left another acre of land that was to be sold to a settler, the value of which was increased by the proximity of transportation; yet the people of this country are not in sympathy with our carrying companies.

You ask the reason, why? I will say to you that it is first of all because there has been basic wrong in the reorganization and in the recapitalization and the rebonding of our transportation systems. There have been rewards wrung from the reorganizations that are absolutely unjust as a burden for the people to carry, and upon which they may be expected to pay a dividend. And yet so great are the possibilities in this country, so marvelous its growth, that without a doubt today all the water that has been thrown into our railroads, all the wrongs that have been done as a result of their reorganization, have left them now by the increased value of property, so that I believe when this commission to be appointed by Congress makes its final analysis of railroad values, we will find that there is more actual

value upon a conservative basis today in the existing properties of the railroads than all of the stock and all of the bonds that all of the railroads have issued in their construction and their reorganization.

But the people have not been cordial to the railroads for some years, and it is injuring business—not railroad business alone. It is injuring your business and mine because of that lack of confidence which makes it more difficult with each passing year to finance the operations that are needed for the expansion and construction of our transportation system.

Let us consider our industrial conditions. How many years ago were people of this country contributing freely to the building up of our industries; cities and towns and individuals vieing with each other to invite industries to come to their respective localities, contributing lands and buildings and money in order that they may be founded safely and soundly and built upon a basis that might be a credit to the community?

Not many years ago, and that is going on today to a great extent, where industrial communities are seeking to increase the number of their factories, or where communities not now industrial are seeking to become industrial communities by inviting manufacturing plants; and yet the country is dotted with the evidences of mistaken ideas with respect to the location of industries, buildings that are windowless, machinery standing dismantled, factories that are crumbling away as days go by, the evidences of the people's money, put into manufacturing in order that a town that never was calculated to be a manufacturing or industrial town might have a factory. It made no difference what the labor supply might be; nor what the distribution of the territory might be, or whether there would be an economic distribution of the product within the natural territory, what they wanted was a factory, and they got it and they paid for it, and they are sore about it because it did not succeed; and that with the other things has led up also to estrangement as between industries and the people, and they have looked at those buildings and their failure and have said: "Our money went into that and look what the result was. Somebody stole it." Because after all a failure is always the result of somebody's theft to the man who lost.

And then they look on the other hand to the great corporation that has succeeded, and they say: "Owing to the fact that we gave them a start and gave them their help in the beginning; owing to the fact of their having a protective tariff for many years, they have grown rich and we have grown poor. They are rolling in wealth and we are rolling in poverty. There is a gulf between which must needs be bridged."

Now, is that a fair statement of facts? Is the industrial life of our country wholly guiltless? No. We have had our special privileges and we have enjoyed them to the full. We have clung to them and paid large dividends when we ought to have released them in part. We have insisted that the advantage which we now hold we should continue to hold—an advantage was given to us at a time when we needed help; when our industries were struggling; when we must absolutely be assured that competition from larger and older and more advanced countries and industries abroad should not be brought against our industries at home. When we needed the help we got it. As we grew and our strength waxed and we were able to release some of the privileges, to my mind, industry and commerce should have been the first to say: "We do not need quite so much of protection," or "We do not need quite so much safeguarding, therefore we will volunteer to relieve you rather than be forced at the end of a long campaign, earning the antagonism of the people at large, to forego the thing that we should have been generous enough to give back to the people voluntarily."

That doctrine may not satisfy many manufacturers, but the world of business is for that doctrine and the world of business is going to force that doctrine upon all the industries of our country, whether they like it or not, because it is equity that when protection has been had to a time of creating a strength sufficient to allow the child to walk lone, that the child should of itself go out and make its place in the world, take its medicine with the others of the world without holding to its mother and asking that it be supported beyond the years where it needs such support.

These things, gentlemen, have brought about this condition which confronts American commerce today. We are confronted with a radical regulation of our domestic commerce, of our industrial corporations—a regulation which has resulted as a perfectly natural outgrowth of conditions that have existed, and that do now in a measure exist, and of which I have briefly spoken. How far such regulation will go lies very largely with such bodies as yours and such bodies as the Chamber of Commerce of the United States.

There is no economic value in small things. It is absolutely unthinkable to my mind that ultimately the people of this country shall come to regard our great corporations or our combinations of corporations as inimical to the public welfare. The greatness of bulk, greatness of wealth, greatness of efficiency provided by these combined organizations, means a production superior to anything that has heretofore been put out in this country—an ability to sell under proper regulation that means not only the best of product, but the lowest of price; likewise being able to go into the world's markets and sell in the world's markets in competition with anything and anybody the world around. But the very moment that you endeavor in order to create an economic competition which it is sought to create in some lines of business; by the breaking up of a corporation into small units; by the disbanding of every agreement that has to do with not only the production and distribution but the very credit itself of the organizations so combined, that very moment, in my judgment, you are undermining one of the most important interests upon which this country lives. You are endangering its industry and its commerce in an entirely unwarranted manner. There can be, as I see it, no disadvantage in combination so long as the combination is regulated to a point that does no injustice to the people of this country, and does not force out of business any man who desires to stay in the same line of business.

Now, that is the regulation which we, as business men, desire, and that regulation which we, as an industrial nation, have the right to demand. An industrial commission that may have just so strict a supervision over the operations of our industries as has the Interstate Commerce Commission over the operation of our carriers; that will see to it that no injustice is done; that the depression of price in one territory to drive out competition is made illegitimate, and that penalties are visited upon the guilty ones in no uncertain manner. These are the things that we must take into our consideration, you in your organization and the national chamber in its organization, to absolutely find a basis of reasonable and sane regulation of our industries, so that we may be able to progress with certainty, and not

to stand in that uncertain position which we are in today, and which, until we are relieved absolutely, throttles our growth and makes it difficult, if not impossible, for us to go out for the world's trade; because we, in our industrial situation, must, in the last analysis in finding the world's trade, compete with like organizations in other countries, and if we split ourselves up into small pieces, going back to the old days of inefficiency and small things, we will never be able to get that trade.

There is another menace to American commerce and that is in the archaic methods of tariff revision. We are going to know very soon what is going on in Washington today. The people of this country placed in authority a party that was pledged to a downward revision of the tariff in no uncertain terms, and I believe they are going to fulfill that pledge no matter how much it hurts the rest of us, and I am satisfied that it is not going to hurt us so very much after all.

(To be Continued.)

By H. E. S.

Dogma is indeed tenacious. Nothing sticks so tight nor hangs on with such apparent joyous perseverance as some old idea based on an insufficient foundation of facts. Take, for instance, many of the world's religious sects. But what we have in mind particularly is that old idea that a trade paper is financially organized, editorially scrutinized and in every manner popularized solely for the purpose of making money. Some trade paper readers—perhaps subscribers—of the old school which still at least professes faith in human nature, have been known to declare that trade papers are a manifestation of an uplift spirit on the part of these gentlemen who produce them. Off-setting the pleasureable effect that this kindly attitude awakens in the bosoms of trade paper producers is the opinion of another and later school of critics holding that these journals belong lock, stock and barrel to the big interests in the particular fields they represent.

Whether prompted by a benevolent or venomous heart, how absurd and erroneous are all these notions! Obviously a trade paper exists merely as an opportunity for some inspired genius to conduct a column of frivolous facetiousness.

On the other hand, and still under the head of literary criticism there are those who do not object to a touch of nonsense sauce added to the more substantial part of their trade paper feast.

Praise be! Domestic Engineering is served up to that sort of banqueters.

In the domain of art there is just now a hectic state of affairs amounting almost to insurrection, rebellion, revolution or mutiny, depending upon whichever side of the fence you happen to be on as regards things artistic. Perhaps is is true that Art per se is scarcely an apposite subject for this or any of the columns of D. E. yet taken relatively what could be more fitting or justifiably placed? Who is there of us that has not rubbed elbows with Art as we find it in the heating or plumbing specifications of a temperamental architect? Not a steamfitter or plumber in the land but knows Art instinctively without an introduction.

What has happened to Art, is that a split has been sprung in the ranks of her devotees. Those who call themselves the Revolutionists, Cubists or Futurists (all meaning, "up and at 'em") insist on painting thoughts or moods or other unthinkable things to the consternation of these who are satisfied to paint just good old things. Old Sophocles, or Simple-Simon or whatever he is, whose initials are at the top of this almost yet quite empty space, knows precious little about Art and would have to do some lively sidestepping if he were called upon to choose sides with either the Futurists or the Old Liners. Upon one condition however he will throw his vote, prestige and persuasiveness all on the side of the Futurist for the rest of his natural life.

If any plumber with an artist's soul or any artist with a plumber's sensibilities will submit to D. E. a picture drawn, sketched, painted or otherwise produced, portraying indignation, outrage, scorn, affliction and a gnashing threat of retaliation upon the face of a plumber who has just been told that "of course plumbers are not business men," this writer as aforesaid will step nimbly and proudly under the banner of the Futurists. This accusation is a red flag against which he has charged repeatedly with all the energy of vocal and typewritten fire. Bring on your pictorial assistance.

D. E. promises to print with proper acknowledgment to the artist-plumber or the plumber-artist, all specimens submitted.

## THINKS MASTER PLUMBERS LAX IN COMBATING DEROGATORY STATEMENTS IN NEWSPAPERS.

### E. D. Hornbrook Comments on Action of "Domestic Engineering" in Replying to Article in Kansas City "Star."

Kansas City, Mo., March 13, 1913.

Editor, "Domestic Engineering":

Delay in replying to your favor of the 7th inst. enclosing copy of your letter of the same date to the editor of the Kansas City Star, has been due to the writer's being somewhat under the weather and away from home.

I, personally, appreciate and thank you very much for your action in this matter and I know that the members of our local association will do likewise. I will have your letter read at the next meeting of our local association.

At the time the Star printed the article referred to, a committee of our local association called upon the Chief of Police and I understand the Real Estate Exchange; just what the result of the investigation is I am not familiar with. Owing to my illness I have been unable to attend the last few meetings.

It is his duty and would be better if the Chief of Police would catch the suspects instead of going into print as to what he believes.

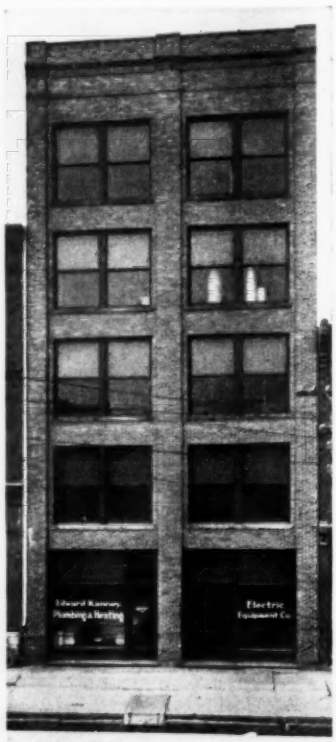
**I regret very much that those in the plumbing business are rather lax in combating statements of this kind that appear in newspapers that are derogatory to the trade and their interest.**

Thanking you again for your kindness in this matter, I remain Very truly yours,

E. D. Hornbrook.

## THE NEW KANNEY BUILDING AT LAPORTE.

For nearly 20 years Edward Kanney has been engaged in the plumbing business in Laporte, Ind., and he ranks as one of the leading plumbers in northern Indiana. The home of his new plumbing establishment is the new five-story building, 614-616 Monroe Street, which was recently completed. The finishing touches, from basement to fifth story, have just been put on the building, which is a credit to the business district of Laporte.



The structure has a frontage of 31 feet and is 64 feet deep. The floor space is 10,500 square feet. The construction is reinforced concrete, brick and steel, with gravel roof. The front of the building is of vitrified brick with stone trim and steel I-beams. The rough flooring is covered with deadening felt and a top layer of maple. The stairways are also maple trim. The windows in the rear of the building are of prism wire glass, and are so constructed that the windows close automatically in case of fire. The front windows are of plate glass. Each floor is equipped with fire lines and fire plugs, with hose attached. Throughout, the building is equipped with modern heating, lighting and plumbing. A combination passenger and freight elevator, operated by electricity, runs from the basement to the fifth floor. The elevator has semi-automatic gates.

The basement of the building is used for the storage of pipe and fittings and for a work shop. On the first floor are the display room and office. On the second floor are display rooms with a fine assortment of lighting fixtures, lamps and shades, vacuum cleaners and electric heating devices. There are stock and work rooms in the rear. The third floor is given over to heating apparatus, boilers, radiators, large valves and fittings. The fourth and fifth floors are used for the storage of materials.

Mr. Kanney is one of Laporte's self-made men and is looked upon as one of the city's most successful business men.

**Our Classified Advertising Page**

offers to you as buyer, seller, employer or employe, the maximum advertising efficiency for a cost that is all but infinitesimal.

## "THE PLUMBER AND STEAMFITTER" BECOMES "SANITARY ENGINEER."

In changing its name from "Plumber and Steamfitter and Sanitary Engineer of Canada" to "The Sanitary Engineer, Plumber and Steamfitter of Canada," this publication makes some statements that show the trend of the times. It says. "Two years ago, after long consideration, the National Association of Master Plumbers (of Canada) decided to change the name of their body to the Canadian Society of Domestic Sanitary and Heating Engineers. Since that time, the change has been made by practically all provincial and local bodies in existence. Before many years have passed, the title 'master plumber' will have become obsolete and in its place will be found the correct designation for members of the trade, 'sanitary and heating engineer.'

"This change in name is justified, nay necessitated, by the changes which have been brought about in the trade itself. The word 'plumber' means a worker in lead; and in the early stages this was a correct designation. With the advance of civilization and the perfecting of sanitary appliances, however, the scope of the craft has changed entirely. The sanitary worker today must have exhaustive practical training along lines of complex domestic engineering; and in addition, must be equipped with insight into the laws of science and physics. He must understand the natural laws governing heating, ventilation and gravitation. In fact, he has become an engineer in every sense of the word and as such he deserves the title."

## DOMESTIC ENGINEERING IN ANCIENT ROME.

Those who have considered lifts in buildings as appliances of modern origin may be interested to learn that Professor Boni is reported to have made the discovery that three large lifts were in operation at the Imperial Palace on the Palatine Hill in ancient Rome. While lacking the refinement of mechanism and finish characterising modern elevators, the fact that machinery of the kind was employed is worthy of note as an additional proof of the engineering genius of the Romans. As far back as the first century Roman houses were warmed by hot air proceeding from furnace rooms and circulating beneath the floors and inside the walls. Again, excavations in Pompeii have brought to light a house fitted with well-designed hot and cold water services, arranged very much the same as those in an essentially modern installation. These and various other examples of ingenuity in early domestic engineering are sufficient to emphasize the point that modern achievements depend mainly upon improved appliances and increased scientific knowledge rather than upon superior intellectual capacity.

## IN CONSOLIDATING SHOPS THEY MUST HAVE "DOMESTIC ENGINEERING."

Lindsay, Calif., April 23, 1913.

"Domestic Engineering," Chicago.—You are sending us two copies of your magazine, one to the Lindsay Plumbing Co. and one to Hood & Evinger. You may discontinue Hood & Evinger's but keep the other coming. We appreciate your paper very much.

Yours very truly,

Lindsay Plumbing Co., J. N. Hood, Prop.

## TENNESSEE MASTER PLUMBERS CONVENE AT MEMPHIS.

The Tennessee Master Plumbers' Association held its annual convention at Memphis, on May 12. The early hours of the morning saw a lusty bunch at Hotel Gayosa, the official headquarters.

President Frank Herbrick and Messrs. Kane, Kennedy and others, from Nashville, were on hand early.

At ten o'clock the local reception committee, headed by Jas. L. Evans, president of the Memphis local, Lew Tisdale and others, escorted the delegates to the Odd Fellows' Hall, near Court Square. Here, with augmented numbers, and a vigilant sergeant-at-arms, in the person of John Gilbert, rapid progress was made.

President Herbrick said, in opening, that since he was at the mercy of a dentist he could not make a long speech.

After the naming of a credential committee, a number of resolutions for the good of the trade, and urging sanitary legislation, were read and adopted.

### Election of Officers.

The president for the coming year is W. W. Cronin, of Cronin, Baker & Tindall, Memphis, and the new vice-president is R. H. McGinn, of Knoxville. T. W. Baker, of Memphis, was made secretary.

F. J. Whittaker, of Memphis, and James Gallagher, of Nashville, were elected delegates to the National Convention, to be held at Philadelphia, June 17, 18 and 19.

A banquet was given at Hotel Gayosa Monday evening by the Memphis plumbers, and was a sumptuous and enjoyable affair. National Director Isaac J. Brown spoke.

In the afternoon the entire body was taken on an automobile ride through Overton Park, the residence section and past the new Chisca Hotel.

The next meeting place will be decided by the executive committee.

## ALABAMA CONVENTION AT MOBILE.

### Chris. Bailey, of Montgomery, Re-elected President.

The Alabama Master Plumbers' Association held its annual convention at Mobile, May 5 and 6. The sessions were presided over by President Chris. Bailey, of Montgomery. About sixty members were in attendance, the largest single delegation being from Birmingham, twenty-three strong.

Committees on the following subjects were named: Public Comfort Stations, Abolition of Public Drinking Cup, Apprentices, By-laws, Essay, Legislative, Sanitary Measures.

A resolution to present the matter of the abolishment of the public drinking cup to the state legislature, was passed.

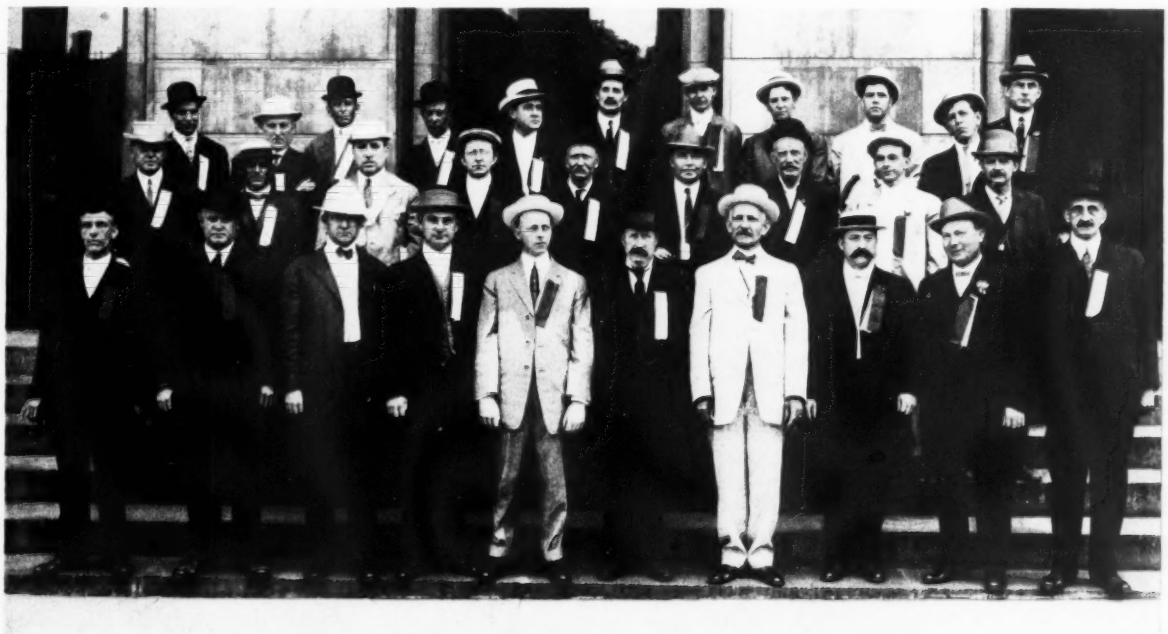
National Director Isaac J. Brown, of New York City, addressed the convention. Discussion of the sale of plumbing supplies as merchandise occupied some time.

The Monday session closed near midnight, with the election of officers. The election resulted as follows:

Chris. Bailey, Montgomery, president; Hamilton Hines, Birmingham, vice-president; J. L. Cahalan, Montgomery, secretary; J. E. Michael, of Talladega, succeeded J. L. Murray, of Montgomery, as treasurer.

Birmingham was selected as the place of holding the 1914 meeting.

On Tuesday the delegates enjoyed an outing on Dog river, fishing and bathing, and in the afternoon were served with a shore dinner at the club house of the Gulf Fishing and Hunting Club. The visitors, in charge of the local members of the association left Mobile Tuesday morning at 9 o'clock on a special boat, and had a most enjoyable trip.



**The Tennessee Plumbers After Visiting the New Courthouse.**

Reading from left to right, Top Row—F. A. Burmister, A. L. Pritchard, J. Schultze, C. E. Brown, A. T. Pepin, M. H. Loring, W. M. Browne, Lewis Baker, E. E. Mizell, G. H. Sheltz and Edward McGowan. Middle—T. W. Baker, Fred Hauser, A. D. Campbell, R. H. McGinn, Martin Woods, J. M. Gallagher, John Gilbert, L. V. Eberle and W. H. Haynes. Bottom—W. O. Kennedy, David Whitehead, J. F. Whitaker, J. L. Evans, J. B. Kane, W. W. Cronin, Frank Herbrick, James Lowe, Mr. Wilhelm and I. J. Brown.

Covington, Tenn.—R. H. White has opened a plumbing establishment in this town.

Albion, Neb.—Johnson & Swals have purchased the plumbing business of Falconer & Empey.

Annville, Pa.—Harry Parker is making arrangements to open a plumbing establishment on Queen Street, in this city.

Eau Claire, Wis.—Benjamin Hotchkiss has opened a new plumbing establishment at 308 Grey Street, in this city.

Delavan, Wis.—Heitzman Bros. have opened a plumbing and heating establishment at 417 Wisconsin Street in this city.

Crosby, Minn.—Wm. H. Gausewitz is making arrangements to open a plumbing establishment in the Olson Building on Main Street.

Davenport, Ia.—Otto Von Doehren and Charles Da Pron have formed a partnership and will open a general heating business in this city.

Big Rapids, Mich.—J. E. Gill has purchased the plumbing department of the Bertrau, Almroth & Co., and will continue the business at the old stand.

Campbellsville, Ky.—Hord & Buckner, grocers, have purchased the Bunnell & Hamilton plumbing business and will conduct it in connection with their grocery business.

Burlington, Ia.—The Burlington Plumbing & Heating Co. is the name of a new firm which has just started in business at 410 North Main Street. The firm is composed of Mr. Grotewohl and Mr. Niewoehner.

Lowell, Mass.—J. W. Stewart Co., of this city, has been incorporated with a capital of $4,000 to conduct a plumbing and heating business. The incorporators are Thomas J. Welch, Geo. A. Stewart and L. G. Paige.

Rochester, N. Y.—Howe & Bassett Co., of this city, has been incorporated with a capital of $200,000, to conduct a plumbing business. The incorporators are J. H. Howe, W. T. Bassett and H. B. Howe, all of this city.

Utica, N. Y.—The George L. Brucker Plumbing & Heating Co., of this city has been incorporated with a capital of $10,000. The incorporators are Geo. L. Brucker, Albert L. Klube and L. H. Brucker, all of 77 South Street, Utica.

St. Louis, Mo.—The Hogan-Sunkel Heating Co., of this city, has been incorporated with a capital of $4,000, to conduct a plumbing and heating business. The incorporators are Daniel Hogan, Emil C. Sunkel, S. R. Hogan and B. F. Sunkel.

Huntington, W. Va.—Swann, Johnson, Bright & Co., is the name of a new corporation which has just been incorporated with a capital of $5,000 to conduct a plumbing business in this city. The incorporators are J. L. Johnson, J. F. Bright, Clarence Swann, C. H. Sharitz and N. Swann, all of Huntington, W. Va.

## PREPARATIONS UNDER WAY FOR THE NATIONAL CONVENTION.

The thoroughness with which the Philadelphia plumbers do things is being manifested in the care taken with the arrangements for the National Convention, which meets there June 17, 18 and 19.

The Quaker City plumbers expect to be the hosts of the largest gathering of master plumbers ever held. The accessibility of Philadelphia, its well-known hospitality and the importance of matters to come before the convention, will draw an attendance that will tax the local association to care for.

The illustration on the opposite page gives some idea of what may be seen in the Quaker City. There will be plenty of business, plenty of amusement—a trip worth taking, without a doubt.

Chairman Wm. H. Doyle, of the Publicity Committee, says:

"You ask me, as chairman of the Publicity Committee, 'What are you going to do for the Thirty-first Convention of the National Association of Master Plumbers of the United States, to be held June 17th, 18th and 19th?'

"The well-known hospitality of Philadelphia Master Plumbers will see to it that the Thirty-first Convention will surpass all the preceding conventions; as the last one held in our city was a record breaker, so shall this be.

"The delegates of the convention and their visiting ladies will be given every opportunity to see the historic city.

"They will be entertained at the headquarters of the convention, the famous Bellevue-Stratford Hotel, the superior of which can not be found in the United States.

"The souvenirs provided for the ladies will be an article of household use, which like the solid silver spoon of the first convention held in this city, will remain long in the families of the various delegates as a pleasant memento of their visit to our city.

"The program, thus far arranged, is as follows: Monday night, informal reception at the Bellevue-Stratford; Tuesday afternoon, shopping tour, sight-seeing automobiles; Wednesday afternoon, luncheon at the Bellevue-Stratford roof garden; Wednesday evening, reception at the Bellevue-Stratford—dancing in the ballroom; Thursday afternoon, steamer excursion to upper Delaware river; Friday afternoon, automobile trip through Fairmount Park, along the beautiful Wissahickon, the Switzerland of America, with a luncheon at Willow Grove. Tickets free to the several amusements throughout the park; return by special train to the Reading terminal."

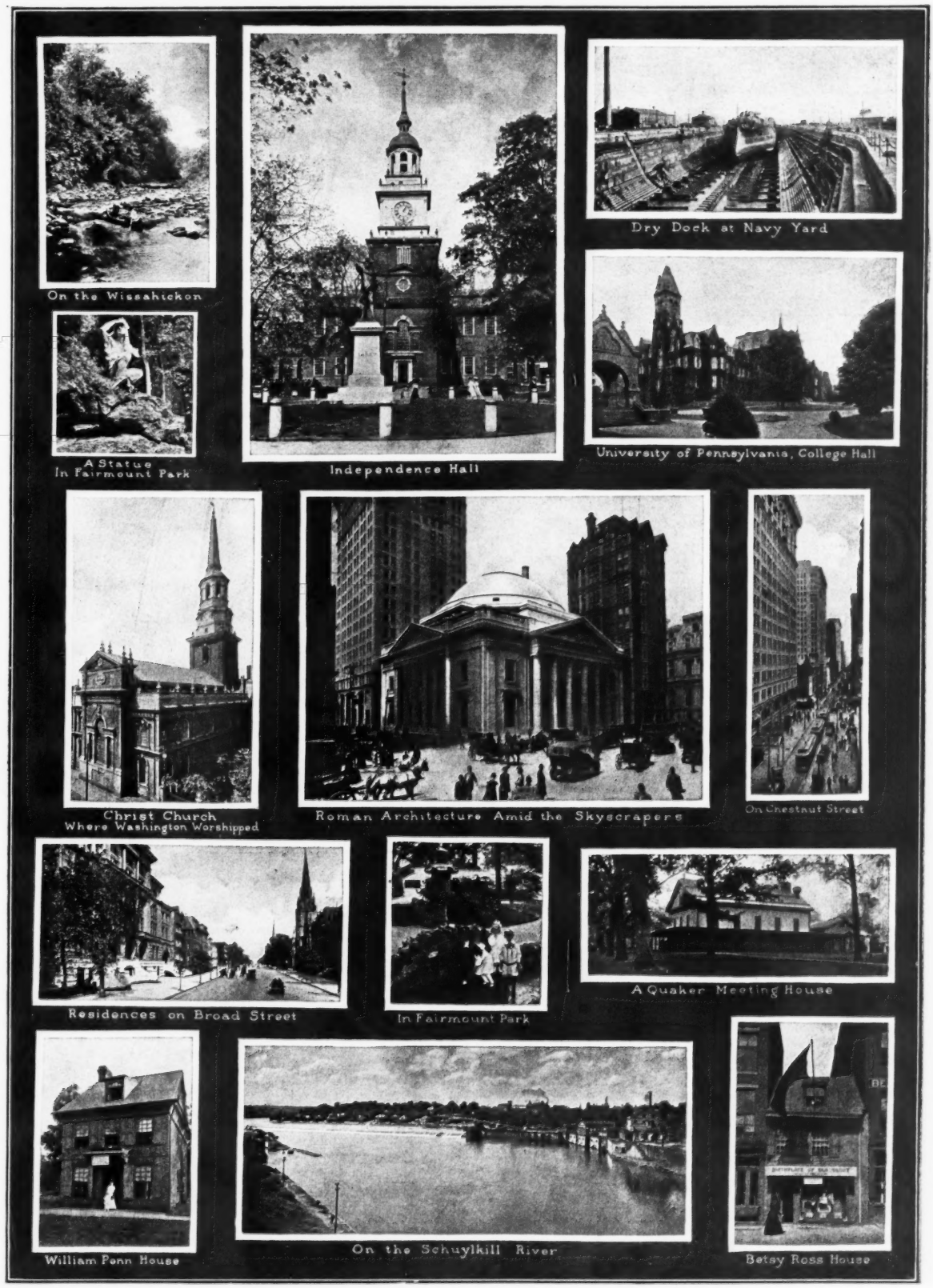
## APPRECIATES PRACTICAL PROBLEMS DISCUSSED.

Editor "Domestic Engineering": The articles on Range Boilers and Fiping appearing of late in the "Questions and Answers" columns of "Domestic Engineering" have been very interesting and instructive to me. Such discussions of these practical problems should help to remedy many bad layouts and be the means of preventing them for the future, which is more important.

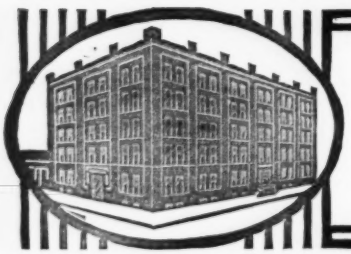
Though not a plumber, I am interested in the building business and have wanted to get better posted on this subject for some time.

These articles have opened up the subject quite fully and I appreciate them. Yours truly,

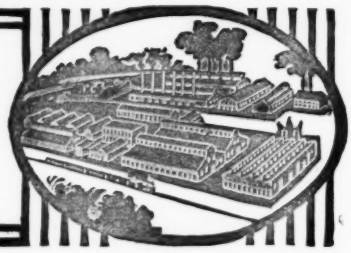
Walter S. Chase,
1132 N. Raymond avenue, Pasadena, Calif.




Some of the things to be seen when you attend the National Convention at Philadelphia, June 17, 18 and 19.



# News of Interest Among the Wholesalers and Manufacturers



## CHANGE IN BOSTON SUPPLY HOUSE.

The Boston Pipe & Fittings Co. has succeeded to the business of J. H. Cunningham Co., at 273 Congress Street, Boston. The new officers are, Lewis S. McCreary, president and treasurer, and William McGrann, secretary.

## TO MANUFACTURE HEATING APPLIANCES.

The S. T. S. Heat Appliance Co., of Los Angeles, Cal., has been incorporated with a capital stock of $500,000 to manufacture heating appliances. The incorporators are: W. W. Wilson, W. M. Brooks, W. A. Frix, J. C. Nass and A. C. Ransom.

## BUILDING LARGE ADDITION.

The Hogan Manufacturing Co., of Grove Street, Hartford, Conn., is erecting a $40,000 addition to its plant. This will be four stories in height, 40x80 feet, and of brick and concrete construction. This will more than double the company's facilities for the manufacture of the "Hogan" line of closet combinations.

## THE SIMS CO. BUILDS LARGE ADDITION.

The Sims Co., of Erie, Pa., is erecting a two-story, fireproof building, 100x200 feet, which is to be equipped for building steel tanks of any description and is to be completed, ready for occupancy, by June 15th. The company's rapidly increasing demand for the "Sim's" water heaters has made it necessary for them to increase the capacity of their plant.

## BREAK GROUND FOR NEW FACTORY.

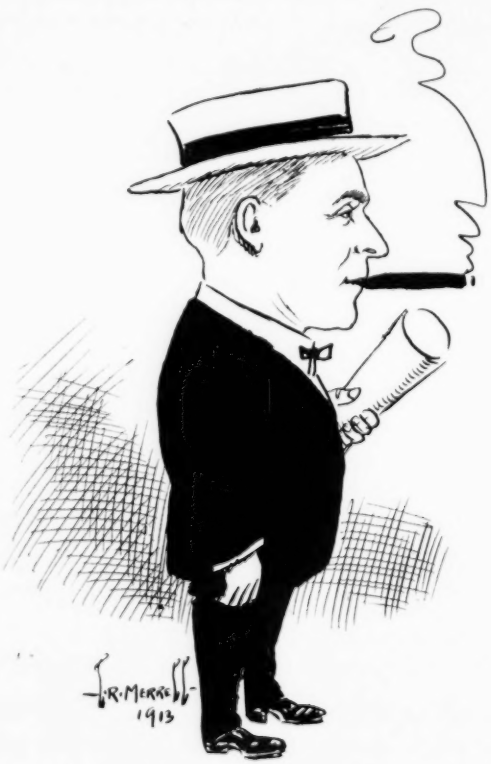
G. F. Church Manufacturing Co., of Holyoke, Mass., makers of the "Genuine Pyralin" line of bathroom specialties, is breaking ground this week for its new factory at Williamansett, a suburb of Holyoke. The new building will be 225x40 feet and of brick and concrete construction. It will be equipped with dry kiln and most improved machinery and will give the company greatly increased facilities.

## BYRD OF BIRMINGHAM.

The mere mention of Birmingham suggests the thought of the "iron master." Not that W. M. Byrd, jr., of that aggressive southern city has even attempted to usurp that title, but his activities in iron should really entitle him to consideration if a title is to be handed out.

The Hammond-Byrd Iron Co. is his hobby—and he has been riding this hobby for something more than ten years. The soil pipe made by this firm finds its way into nearly every northern city. The firm was originally organized to deal in coal, coke and iron, but at an early stage went into the manufacture of soil pipe.

When the "Domestic Engineering" artist appeared on the scene at the Hotel Sherman during the recent Pipe and Supplies Convention, Mr. Byrd was just finishing a fish story, with one foot slightly elevated and the cigar in his left hand. The story was really of a "futurist"



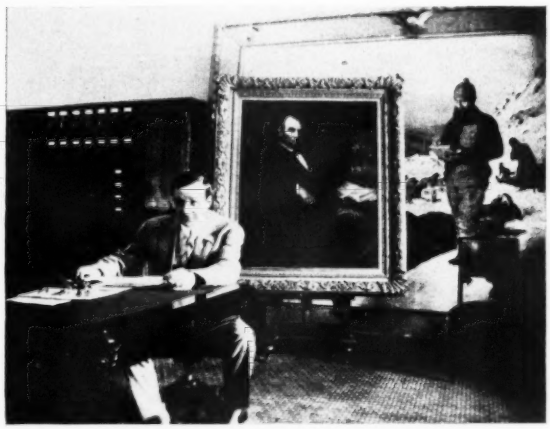

W. M. Byrd, Jr., of Birmingham.

type, for his longing for the bass lakes of Minnesota took him the next day past them and on to Winnipeg. While there, of course, he must needs book an order or two, for Canadian orders nowadays are not to be sneezed at.

## IN GOOD COMPANY.

One man who is becoming well known to a great many of the plumbing trade in Chicago and suburbs is A. F. Sheahan, who represents the Central Brass Manufacturing Co., of Cleveland, Ohio, in this territory. He has brought to the Chicago trade a winning personality as well as a fund of valuable information regarding the lines of brass goods manufactured by his company at

Cleveland. Mr. Sheahan has demonstrated that as an explorer for profitable business, he is bringing to his company results that compare favorably with what Lieutenant Peary accomplished in his effort for the world at large.

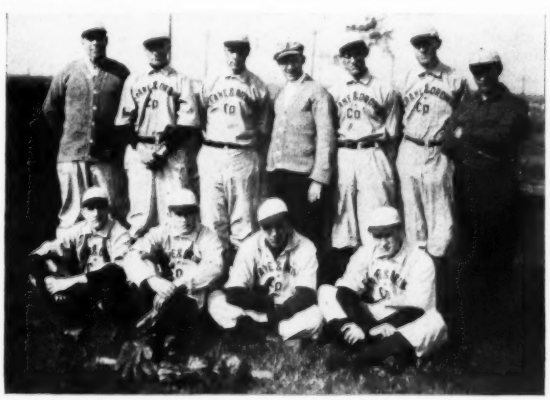


A. F. Sheahan, of Central Brass.

The portrait of Mr. Sheahan herewith shown is taken beside a famous one of Abraham Lincoln and another of Lieutenant Peary.

## CRANE AND ORDWAY BALL TEAM AGAIN IN THE FIELD.

A record of seventeen games won out of a possible twenty was that held by the champions of the "City Jobbing League," of St. Paul, last year. This team was made up of employes of Crane & Ordway Co. Besides defeat-



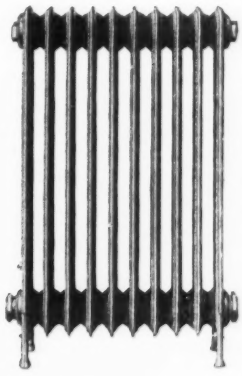
Crane & Ordway Ball Team.
Standing, left to right: Gault, lf.; March, 3rd b.; Hechtl, ss.; Wold, sec'y and treas.; Oberg, rf.; Morgan, c. and mgr.; Dixon, p. Sitting: Minser, 2nd b.; Johnson, p.; Afolter, 1st b.; Winterer, cf.

ing most of the jobbing house teams of St. Paul, they took the team of Crane Co., Minneapolis, into camp on two different occasions. They have made a good start this season by winning the first two games played.

P. W. Rarer, who has been connected with the selling end of the Turner Brass Works, Sycamore, Ill., for a number of years, has recently joined the selling force of the Clayton & Lambert Mfg. Co., Detroit, Mich., and has started on his maiden trip with his new line.

## PRESSED METAL INVINCIBLE RADIATOR.

The accompanying illustration shows a new radiator design, the Invincible, which has just been placed on the market by the Pressed Metal Radiator Co., of the Bailey-Farrell Building, Pittsburgh, Pa. This design has largely increased air space between sections and is said to be peculiarly well adapted for homes, hospitals, sanitariums, as well as for all other buildings where particular efforts are made to secure absolute cleanliness and high efficiency. The large open spaces between the sections permit all parts of the radiator to be kept as clean as a tile floor, with very little effort. These large air spaces also permit the heating and distribution of unusually large volumes of air, which makes this new radiator efficient as a heating unit. The manufacturers state that this radiator has very thin walls, weighs only about one-third of the cast iron radiator of the same rated capacity, has quick and positive action, uniform distribution of heat, rounded artistic appearance and occupies little floor space. A new forty-two page catalog has just been issued and can be secured by interested parties, upon request to the manufacturer, mentioning "Domestic Engineering."



## SUMMER CARE OF HEATING BOILERS.

The season of the year is here where all manner of heating apparatus, furnaces, steam or hot water heaters should be thoroughly cleaned and, if necessary, repaired and put in condition for the summer. It is a well known fact that the deterioration of furnaces and heating boilers takes place during the summer months when the apparatus is not in use, and is the direct result of the sulphur and other chemical ingredients contained in the soot. The moisture in the atmosphere (and the air in all basements is more or less filled with moisture) condenses on the cold plates or castings of a furnace or boiler, moistens the soot and produces a chemical action that attacks the iron. All boilers and heaters of every nature should be thoroughly cleaned of ashes and soot and by applying Rex Anti-Rust Compound to the inner surfaces of the heater the effect of the sulphur and the soot is neutralized and the deterioration of the iron is prevented. Full information about this compound can be obtained by writing the producers, A. G. King & Co., Reading, Pa., and mentioning "Domestic Engineering."

Rex Anti-Rust Compound.

## THE COWAN OPEN SEAT.

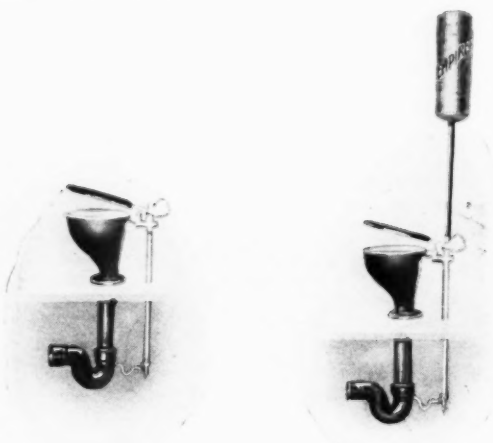
The Cowan Open Seat illustrated herewith, is manufactured by the Sanitary Specialties Co., of 1824-36 East Clearfield Street, Philadelphia, Pa. This seat is made in five different patterns and is covered with "Porceloid," a white celluloid compound covering, which is said to become a part of the wood itself, and which will never dis-

The Cowan Open Seat.

color, chip or crack. The manufacturers are of the opinion that this seat with its covering, is the latest word in closet seat perfection and they would like to have all progressive plumbers know all about it. A postal card asking for complete information, mentioning "Domestic Engineering," will receive prompt attention at their hands.

## "EMPIRE" FROST-PROOF CLOSETS.

The Baltimore Frost Proof Closet Mfg. Co., of 1001-1003 East Baltimore, Md., manufactures the "Empire" frost-proof closets, of which two combinations are shown



Some of the "Empire" Closets.

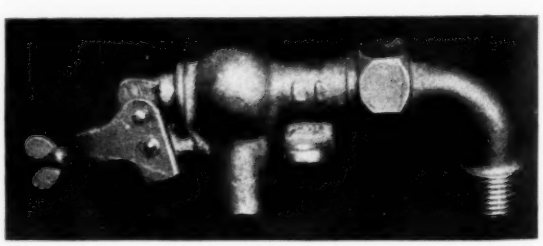
herewith. In describing this closet the manufacturer states that it has two separate valves which work automatically and independently. When the seat is depressed to use the closet, the top valve closes and the bottom valve opens and allows the tank to fill with water. As soon as the seat is released, it raises automatically, closes the bottom valve which shuts off the supply of water and opens the top valve which allows the full capacity of water in the tank to flush the bowl. The top valve of this closet is so arranged as never to allow the city pressure to be against the stuffing box. This most important feature prevents the freezing around the stuffing box, which has been a weak point on many frost-proof closets. The manufacturer states further that this closet has no cup leathers and no delicate parts of the valve to get out of order. Added to this, attention is called to the fact that all parts are above the floor and can easily be repaired without any digging. Interested parties can obtain a neat folder containing complete information, upon request to the manufacturer, mentioning "Domestic Engineering."

## THE ASHTON KEROSENE TORCH.

The Ashton Mfg. Co., of Newark, N. J., makers of torches and fire pots, have added kerosene torches to their line. Realizing that the demand was growing for a torch using kerosene, as fuel, they have placed on the market several kerosene quart torches. The burners are made of special generator metal with chamber which super-heats the gas, producing a powerful blue flame of intense heat. It is fitted with clean-out plugs and the chamber can be easily cleaned should it become clogged from impurities in the kerosene. The tanks are made of heavy seamless drawn brass with improved brass automatic pump in the tank or in the handle and filler plug with air-valve screw for releasing the air. A new catalog, showing the company's line of torches can be obtained upon application, mentioning "Domestic Engineering."

## A BALL-COCK OF QUALITY.

The L. B. Brass Co., of Peabody, Mass., is manufacturing a ball-cock that combines several most interesting features. One of these is the finder point screw, which



The L. B. Ball-Cock.

they claim allows the plumber to release all parts, and quickly put them together again, thus effecting a saving in time on repair jobs.

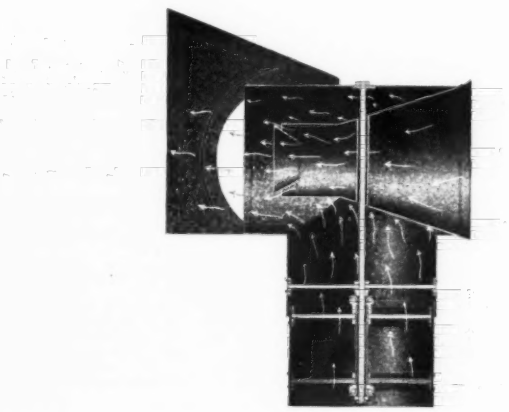
The illustration gives an idea of the appearance of the L. B. ball-cock, but a full description can be obtained by writing the manufacturers, mentioning "Domestic Engineering."

## A NATURAL MECHANICAL VENTILATOR.

Utilization of natural air currents to increase the velocity, provides the powerful ejector principle that characterizes the Fisher Automatic Ventilator.

This ventilator is designed for buildings that would otherwise require a mechanical ventilating system, as well as those that are more simply served.

The manufacturers claim that the peculiar construction



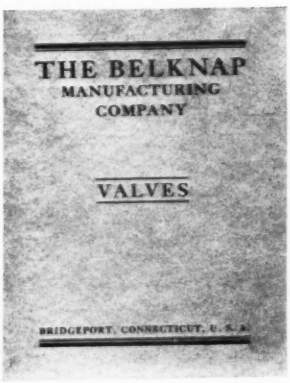
The Fisher Automatic Ventilator.

of the ventilator prevents back drafts, and that it will exhaust cold as well as warm air without difficulty.

This ventilator is manufactured by Martin Fisher & Sons, 75 West Chippewa Street, Buffalo, N. Y., who will be glad to send complete particulars to readers of "Domestic Engineering," who will mention this paper.

## NEW CATALOG OF BELKNAP MANUFACTURING CO.

The Belknap Manufacturing Co. Bridgeport, Conn., has recently issued a catalog of valves, which covers in complete detail the line of valves of their high grade




The Belknap Catalog.

brass goods for steam, gas and water that are manufactured by this company. A number of other specialties also are included in the catalog which is most comprehensive.

The company will be glad to send a copy of their 1913 catalog to those who are interested in writing them for it and who will mention "Domestic Engineering."

# The Metal Market

### Less Demand for Iron.

Returns concerning the pig iron situation are mixed. The report of the trade authority regarding the consumption of iron during the month of April was optimistic, there being an increase over the preceding month and the daily rate of production having been exceeded only once before in the history of the iron trade. On the other hand, the report of the U. S. Steel Corporation showed that unfilled orders had dropped off at a truly alarming rate, half a million tons, and the total orders unfilled on the books of the corporation now are about a million tons less than they were at the opening of the year. Coincident with this comes the renewal of the suit of the Steel Corporation with the examination of the leading men in control of the business. Although the Steel Corporation may not have as many friends as it did just prior to the panic of 1907, it cannot be doubted that there are a great many who believe that the policy of the corporation has been for the benefit of general business throughout the country, and would regret exceedingly to see such a factor as the corporation removed from so important an industry as the iron trade. The contention, of course, will be that while the management now is all that can be desired and working for the good of the business of the country as a whole, still no one knows when that management will change. This is more or less of a narrow view, for the management of so large a company as the Steel Corporation must always bow to public opinion. Quotations are unchanged from last week as follows:

| | |
|---|---|
| No. 1 Northern foundry, New York | $17.25 to $17.75 |
| No. 2X Northern foundry, New York | 15.50 to 17.00 |
| No. 2 Northern foundry, Cincinnati | 16.00 to 16.50 |
| No. 2 Northern foundry, Chicago | 16.75 to 17.25 |
| No. 2 Southern foundry, Birmingham | 12.00 to 12.50 |

### Lead.

Due to a diminution in business, the market for lead has been soft and prices have receded 15 points. In New York lead can be had at 4.35 cents and in St. Louis at 4.40 cents.

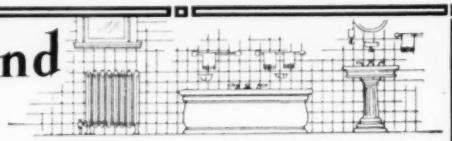
### Tin.

Consumption is large and the recent order of the Standard Oil Co. for an enormous quantity of tin plate to be placed in Swansea, England, has strengthened the market. American tin plate mills have about all the business they can take care of for the present. The price is steady at around 50 cents for large lots.

### Copper.

Conditions continue to improve and prices have advanced slightly. The report of the Copper Producers' Association was eminently favorable to holders of the metal and the reduction of stocks was the largest reported since last August. Since that time European consumers continued to buy in large quantities and likewise in the United States there have been some excellent sales. Lake copper continues to be in just as urgent demand as last week, with electrolytic being urged for nearby delivery.

# Among the Plumbing and Heating Contractors



## Illinois

### Chicago.

It is expected that Governor Dunne will soon appoint a new list of members for the State Board of Health. It has been customary in the past to name physicians exclusively as members. Anticipation is now strong, however, that the Governor will ignore the custom of his predecessors by appointing a master plumber to serve with the medical men on the board. The committee of master plumbers, who recently called upon the Governor at Springfield, feel rather optimistic regarding the possibility of a member of their craft being named. Governor Dunne informed the committee that in the event of his considering it advisable to appoint a master plumber for the State Board of Health, the man named would have to be a high-grade man, honest and capable and with a thorough knowledge of sanitation, as related to plumbing. From present indications it does not appear that there will be any fierce fight among Chicago master plumbers to secure the appointment, due largely to the fact that the position is an honorary one, carrying with it no salary. Some of the local men who have been suggested for the place, in the city, are: M. L. Mandable, David Whiteford, James Couplady, Charles C. Breyer and James J. Wade. Peoria has a candidate in Thomas Cody, a successful master plumber, of that city.

The J. J. Wade & Son Co. is putting the finishing touches to its part of the work at the Westminister Building, at Dearborn and Monroe Street. The heating and plumbing systems which the Wade firm are installing are said to be the most up-to-date in any down town structure.

Peter A. Nelson, a sanitary engineer and master plumber of Minnesota, was a recent visitor in Chicago. He made a trip through the stockyards for the purpose of studying the plumbing and sewerage systems there. He came to Chicago to gather data at the instance of a large corporation of Minnesota, whose officers are contemplating the building of a large manufacturing plant near St. Paul.

Charles C. Breyer, prominent master plumber, of Chicago, was recently appointed as a member of the Chicago Library Board by Mayor Carter H. Harrison. Mr. Breyer is receiving the congratulations of his many friends upon his appointment. Although the position carries with it no monetary reward, it is, nevertheless, a signal honor.

Joseph Scheuer, master plumber, 3019 Lincoln Avenue, who has been confined, several weeks, at the Augustana Hospital, following an operation, is reported as recovering rapidly and it is expected that he will be "back on the job" in a week or two.

William Gawne, jr., has recently moved into a new building which he erected for himself at 5812 West Madison Street. The new building is a one-story structure. Part of the building will be used by Mr. Gawne as a shop for his plumbing business.

The marriage of Miss Marie A. Hanley, daughter of Mr. and Mrs. Thomas F. Hanley, 3965 Drexel Boulevard, to Grable Barsaleaux Weber, was solemnized Wednesday afternoon, May 14th, at the Holy Angels Roman Catholic Church. The wedding ceremony was attended by close friends and relatives of the couple. The bride is the daughter of one of the successful master plumbers, of Chicago, the president of the Hanley-Casey Co.

Mendota.—Business with H. O'Meara & Co. has opened up with a rush this spring. They have just closed a contract with Jacob Koerper for the plumbing and hot water heating in an $8,000 bungalow. Another residence job for S. J. Hurd, covering plumbing and hot water heating is also on the books. A large garage job is also under way, and a plumbing, hot water and gas fitting job for F. W. Colson has just been completed.

## Kansas

### Progressive Kansas Plumbing Firm Gets the Public Into the Store.

A. P. Elder, of Ottawa, Kansas, believes in letting the public see that he has the goods and wants to sell them. He held a reception to the citizens of Ottawa and vicinity last Thursday. What he did can better be judged from the invitation sent to the ladies:

**Reception at Elder's.**

*Dear Madam:*

*We most cordially invite you to attend a reception to be held Thursday, May 15, at our plumbing show room, 111 West Second street.*

*We now have the most complete and artistic plumbing room in the state of Kansas. Here you will see the highest grades of plumbing fixtures, all the most modern appliances for the bath room, and a handsome array of gas and electric fixtures in our new fixture room. We have arranged to have special music to entertain you. Frappe will be served, and we will take great pleasure in presenting each lady with a carnation.*

*Hoping that you will honor us with your presence on this day, we are,*

*Respectfully,*

*The Elder Mercantile Co.,*

*Ottawa, Kansas.*

*Hours:*

*2 to 5; 7 to 9.*

## Massachusetts

Lowell.—New plumbing rules have been adopted by the board of health and incorporated in an ordinance which is to be presented to the city council for action.

West Stockbridge.—George P. Root has opened a plumbing establishment on Main street. He was formerly employed as an engineer at the Borden milk depot.

Marion.—Charles L. Church and Lester E. Stowell have bought out the hardware business of "Coggeshall's Store" and added a plumbing department. The firm name is Church & Stowell.

# Maine

Augusta.—A certificate of incorporation has been issued to the G. A. Norwood Company, organized at Saco, for the purpose of doing plumbing and heating work of all kinds. The promoters are George A. Norwood, Percy G. Norwood, Frank M. Murray, of Saco, and Lucien Fortin and M. P. McGarrity, of Biddeford.

Phillips.—M. D. Tibbetts & Sons are installing a heating plant in the residence of H. P. Smith.

# Texas

## ECHOES OF THE TEXAS CONVENTION.

That the Texas convention was a success, both in numbers and interest, is the opinion of all who attended the San Antonio meeting. Those who have had time to reflect over the subjects brought up feel that much good was accomplished.

The illustration, herewith, shows the reviewing stand, specially prepared for the delegates and ladies. Straw hat weather was on at San Antonio, while the North shivered.

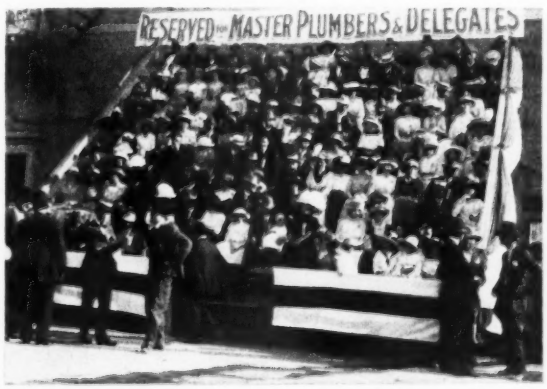
It is our pleasure, also, to show pictures of some of those prominent at the convention, Uncle Sam's mail service preventing their use with the convention report.

The Invincible Jos. Netzer, of Laredo, state president for six years in company with R. Bosenburg, of San Antonio.

Ed. Braden, of San Antonio, whose reputation is nation-wide. He is now chairman of National Legislative Committee.

Fred B. Mueller, of the H. Mueller Mfg. Co., whose display at the Menger Hotel attracted much attention.

A group of live Texans—J. O. Montrief, sec., Fort Worth; W. E. Thacher, pres., Fort Worth; Patty Shean, past pres., Dallas.




Reviewing Stand at Texas Convention.

# Kentucky

## Louisville.

W. J. Baldwin, of Louisville, has secured the contract for the plumbing in the residence of George C. Devol, in Bonnycastle, the award being made by Arthur Smith, the architect. Stratton & Terstegge, also of Louisville, secured the contract for the installation of the heating apparatus.

The contract for the heating and plumbing for the Shelby County Court House, at Shelbyville, Ky., which is now under construction, has been let by the architects, Joseph & Joseph, of Louisville, to the Kuhn Plumbing Co., of Shelbyville.

An instance of the fact that the man who will look a little bit ahead and then stick to his job will eventually win out is that of B. J. Starke, who has a little plumbing shop at 2808 West Grand Avenue, in a Louisville suburb, which until recently was very thinly built up. During the past two years, however, while the Starke shop has been doing business at that location, there has been a considerable growth in the number of residences built, and Mr. Starke has been doing a fine business.

J. A. Pickering, one of the officers attached to the health department of the city of Louisville, recently secured warrants for two real estate men, under an ordinance of the city which has not been enforced as it should, requiring sewer connections to be made where a sewer is accessible. The two men are charged with failing to connect premises in their charge with sewers. The active enforcement of the ordinance which these prosecutions indicate will undoubtedly result in a good deal more work for plumbers, especially in view of the fact that Louisville is now provided with sanitary sewers more extensively than ever before.

The plumbing shop of H. W. Fowler, of Paris, Ky.,

has been purchased by C. T. Fitemaster, of that city, who has taken charge and will hereafter conduct the business.

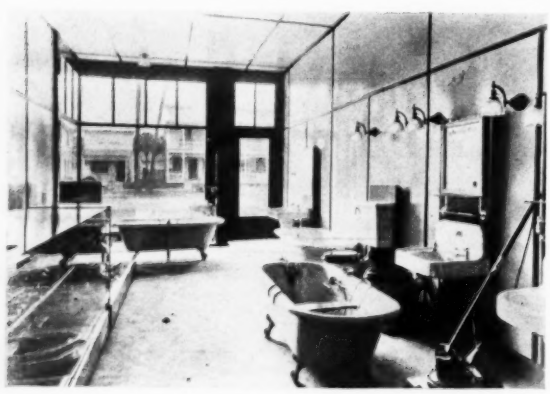
The remodeling of a corner of the court house at Owensboro, Ky., involves some changes in the heating apparatus in that part of the building which is to be rebuilt, and this work has been let to the Owensboro Heating and Plumbing Co., of Owensboro.

The plumbing in the Kuhn-Cooper-Geary Building at Church Street and Capitol Boulevard, Nashville, Tenn., has been let by the architect to John T. Fox, of Nashville, and the heating plant will be installed by Kennedy & Co., of the same city.

# Florida

## FLORIDA—LAND OF SUNSHINE AND GOOD PLUMBERS.

The attractiveness of a showroom is often an indication of the business methods of the plumbing firm which thus bids for business. This kind of a bid, however, is not the one made with a sharpened pencil; in fact, the sharpness



Attractive Showroom of Staples & Cutten, Daytona.

of the pencil has nothing to do with the success of the business.

For attractiveness in showrooms drop in on Staples & Cutten, Daytona, Fla. The illustration can but faintly picture the room—it cannot picture the aggressiveness of the men responsible for it.

They buy many lines in car lots, use hundreds of Never-Sp——, but why elaborate? The fact that a motor truck is used to deliver their goods on the job simply indicates that they're up-to-date.

# California

### San Francisco.

Pacific Coast building records for April indicate a period of unusual activity in the larger cities. Some of the smaller towns show a little decrease, but the San Francisco total was $3,152,020, the first time in several years that such a high valuation has been reached. This does not include Exposition or municipal work, which would make the total much higher. Los Angeles has broken all records, with a total of $5,047,065, permits having been issued for several large Class A buildings in addition to a great number of dwellings and small business and apartment buildings. As for the outlook, contracts for general construction on good-sized buildings are coming out with unusual rapidity in San Francisco and Oakland, and the plumbing contracts cannot long be delayed, while some of the largest projects of the year are soon to be figured.

A bill has just been passed by the State Senate which, if it is signed by the Governor, will have a far-reaching effect upon all trade organizations, being heralded as the most stringent "anti-trust" law ever proposed in California. Just what its effect will be, can, of course, be determined only by tests to come later, but according to a common interpretation it will practically prohibit communication between competitors in regard to prices, and make trade organizations next to impossible. The extremely radical workmen's compensation law has been passed.

Willard C. Chamberlin, Pacific Coast representative of the Standard Sanitary Manufacturing Co., reports the first appearance in his territory of the new "Conred" model bath tub of this company, a fixture 17-in. high over all, cast integral and enameled all over. This tub has attracted considerable attention, and promises to gain great popularity for hotel and apartment work.

At the opening of bids a few days ago for the completion of the Polytechnic High School in this city, nine firms figured on the plumbing, the lowest being the Peterson-James Co., at $24,764. F. P. Walsh was low on the heating system at $14,520, while the lowest figure on electric work was $18,150, by the Pacific Fire Extinguisher Co., and the John G. Sutton Co., at $23,300, was the lowest bidder on the heating system. After the receipt of bids, the local Labor Council made objections to the Board of Public Works against the use in this building of boilers, valves, etc., of eastern manufacture.

The H. W. Johns-Manville Co. has been awarded the contract for furnishing lighting fixtures for the ten-story Standard Oil Co. Building at Bush and Sansome Streets, at $16,782.

The Pacific Blower & Heating Co., of this city, has submitted the lowest bid for a heating and ventilating system in a new school at San Mateo, Cal.

F. J. Klimm has secured the contract for plumbing, tank work, etc., for an addition to a Class A building at Grant Avenue and Harlan Place, at $2,490.

### Los Angeles

The People's Plumbing & Construction Co., of Los Angeles, has been incorporated with a capital of $100,000 to conduct a general plumbing business, intending to handle large contracts as well as the regular run of work in its line. The incorporators are: W. G. Emmet, R. Nightengale, E. Jones, E. A. Fountain and R. H. Canfield. The latter four are experienced and thoroughly trained, practical men. Mr. Canfield will be general superintendent of the field work. Mr. Emmett will have charge of the business affairs of the company, which has a downtown office at the Consolidated Realty Building.

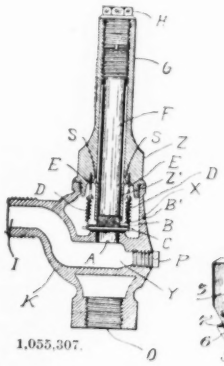
The W. D. Newell Plumbing Company, 218 West First Street, has been awarded a contract at $5,050 for the plumbing and steam heating systems to be installed in the three-story brick apartment house to be built on Los Angeles Street near Pico Street for J. R. Lane. Kysor & Biggar, Wright & Callender building, are the architects.

Long Beach.—The Long Beach Plumbing Co., 342 Locust Avenue, has been awarded the contract for plumbing and heating in an apartment building at 343-345 Chestnut Street, for R. L. Wilson. Amount, $4,322.

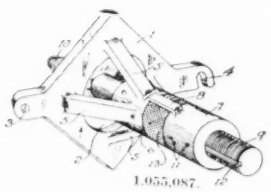
# Patents

## Heating Department.

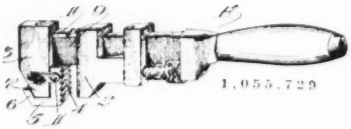
1,055,307. Thermostatic Valve. John W. Barton, Cleveland, Ohio. A thermostatic valve comprising a body having an inlet and an outlet and a cross passage communicating with said inlet, said cross passage being spaced from the sides of the body within the same and having a valve opening and seat at the top, said valve opening being below the level of the inlet, whereby condensation on the inlet side of the valve will connect in said passage, a bonnet on the valve body having a tubular extension, an expansion rod supported in said extension and located opposite to the valve seat, and on the outlet side thereof, a valve disk between the lower end of the expansion rod and the seat and adapted to be closed by said rod against the said seat, and springs connecting the disk to the bonnet and adapted to withdraw said disk from the valve seat when the expansion rod contracts.



1,055,307.



1,055,087.



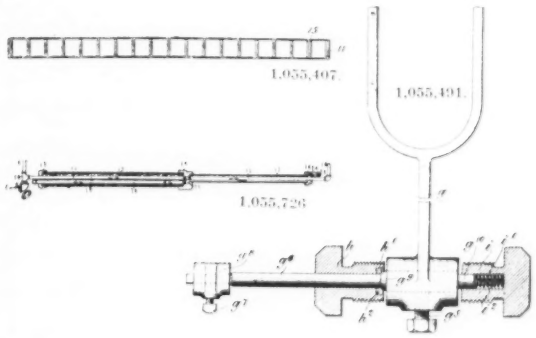
1,055,729.

1,055,087. Reamer Attachment for Die-Stocks. Francis Saville, Chicago, Ill. A reamer attachment for pipe threading die stocks comprising a plate having a central opening therethrough; a plurality of converging arms on said plate; a tubular member comprising two sections spaced apart by means of yoke arms, such tubular member being secured in axial alinement with said opening in said plate by means of said converging arms; a reamer shaft having a spline way extending longitudinally thereof and slidably mounted in said tubular member; pins in said tubular member engaging said spline way in said reamer shaft; and a nut threaded on said reamer shaft between the two sections of said tubular member.

1,055,729. Pipe-Wrench Attachment for Monkey-Wrenches. William Esterberg, Stockton, Cal., assignor of one-half to Francis Cutting, Stockton, Cal. A pipe wrench attachment for monkey wrenches, consisting of a toothed jaw adapted to register with the inner face of the main jaw of the wrench, said toothed jaw having a forward extension and a turned-over portion fitting the tip of the main jaw of the wrench.

1,055,407. Radiator Construction. Virginia Julian Mayo, New Haven, Conn. In a radiator, a unit formed of a strip of metal having plaits therein, said strip being folded intermediate its ends to form a box-like structure and to bring the plaits between the side walls thereof, said plaits extending entirely across the space between said side walls to support both of the same against collapse and vibration, one end of said strip being bent at the base of one of the inside plaits to bring the end plait into a plane between the walls of said unit with the base of said plait facing outwardly, the opposite end of said strip extending into the last mentioned plait to form an interlocking joint.

1,055,726. Hot-Water System. Robert M. Dixon, East Orange, N. J., assignor, by mesne assignments, to Standard Heat and Ventilation Co., Inc., New York, N. Y., a



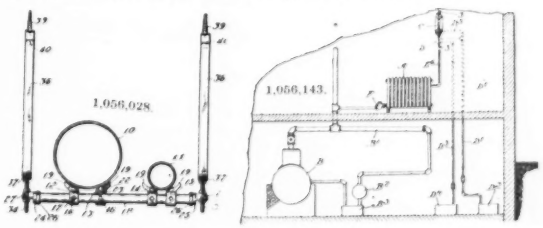
1,055,407.

1,055,491.

1,055,726.

corporation of New York. In a system of the class described, in combination, a system of piping through which a fluid is adapted to circulate, a heater operatively associated with said piping, a conduit connected to a source of supply of a heated medium and to said heater for conveying said medium to said heater whereby the fluid circulating through said piping will be heated, a jacket surrounding said piping, heat storing material contained therein, and means communicating with said heater for conveying the heating medium therefrom into operative relation to said storing material.

1,055,491. Steam-Meter. Frederic A. D. Rankins, Bayonne, N. J., assignor to Gamaliel C. St. John, Montclair, N. J. In a fluid-meter, the combination with a casing, internal operating parts and external operated parts, of a spindle operatively connected internally with the operating parts and operatively connected externally with the operated parts, a bearing plug for the spindle threaded into one wall of the casing, the spindle and the bearing plug having ground contacting bearing faces, a bearing plug for the opposite end of the spindle threaded into the opposite wall of the casing, and a spring seated in said last named bearing plug and bearing against the end of the spindle to hold said bearing faces in contact.



1,056,028.

1,056,143.

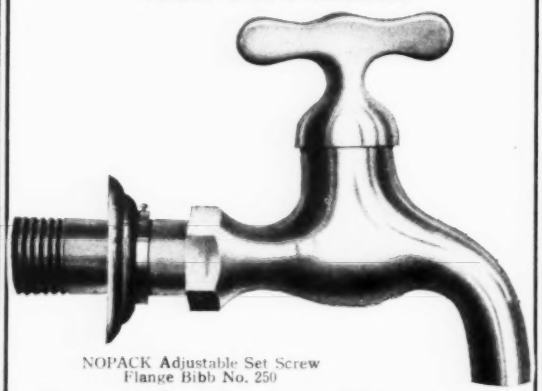
1,056,028. Pipe-Support. August Kehm, Chicago, Ill. A pipe support comprising in combination, a bar extended transversely beneath the pipe to be supported and having its opposite ends threaded, caps screwed upon the opposite ends of said bar and each carrying an integral apertured bracket lug, a pair of truss form hangers each comprising a strap iron which is bent at opposite sides of its mid-length to provide an intermediate section adapted to be secured against the ceiling, and end sec-

It is impossible to control water with a faucet made of less than two pieces. Neither is it necessary for a faucet to be made of more than two pieces.

**Nopack Faucets**

are made in two pieces without top bibb washer or stuffing box and

**Will Not Leak**



NOPACK Adjustable Set Screw Flange Bibb No. 250

**Nopack Brass Mfg. Co.**

Main Office and Works
Du Bois, Penna.

Philadelphia Office
527 Perry Building

**The Rome Ball**

Cannot Collapse

Seats Perfectly

***Are You Using It?***

If not why not and be honest with your customers?

Cut to show the rubber held firmly in position by lining of copper.

Western Rep. Harry Verbeek, 139 N. Clark St., Chicago, Ill.

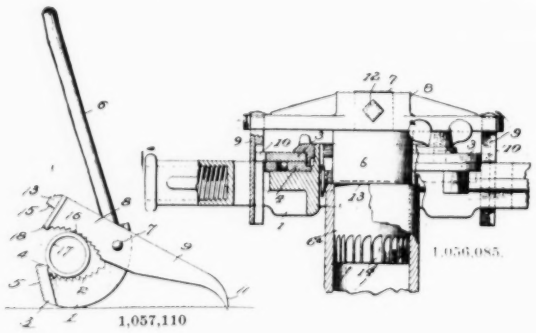
Eastern Rep. Joseph L. Fritz, 910 Drexel Bldg., Phila., Pa.

**Rome Sanitary Co., Rome, N.Y.**

tions extending obliquely downward to a juncture, the two ends of each strap iron being overlapped and provided with bolt-receiving apertures, and a bolt connecting the overlapped ends of each strap iron with the bracket lug of one of the said caps.

1,056,143. Heating System. Charles G. Armstrong, Chicago, Ill., assignor, by mesne assignments, to Automatic Heating Company, Jersey City, N. J., a corporation of New Jersey. A steam heating system comprising a radiator, a source of steam supply, a source of air supply, an exhaust device, and conduits leading from the source of steam supply, the source of air supply and exhaust device to the radiator means for controlling the conduits leading from the source of air supply and exhaust device, a non-floating pressure valve, independent of variations in temperature, controlling the conduit between the radiator and source of steam supply, said valve adapted to be closed when the radiator is connected with the source of air supply so as to confine the air, steam and water of condensation in the radiator, and adapted to automatically open when the radiator is connected to the exhaust device so as to permit the entrance of the steam into the radiator through said valve, and the exit of the water of condensation through the same valve.

1,057,110. Pipe-Wrench. Noel Armstrong, Billings, Mont. The herein described pipe wrench comprising two members pivotally connected together, one of said members having a curved serrated jaw provided with an enlarged outer end, said member having a handle projecting therefrom, and the other member comprising a jaw having a curved serrated surface, a cross-bar near each end of said member, one of said cross-bars being extended to form a stop against said enlarged end, said other member having claws to engage the floor, and one of the cross-bars being roughened to prevent the operator's foot from slipping when holding the claws engaged with the floor.

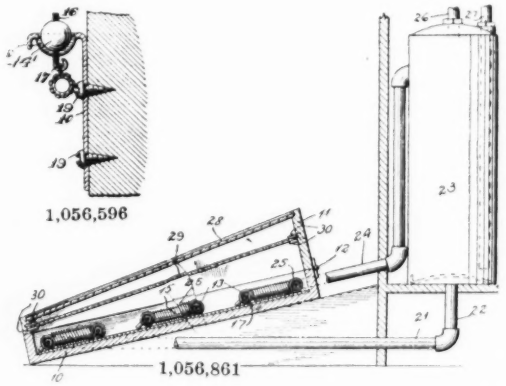


1,057,110

1,056,085.

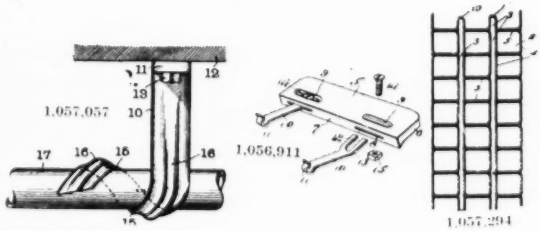
1,056,085. Pipe-Threading Tool. Bradford Borden, Warren, Ohio, assignor to The Borden Company, Warren, Ohio, a corporation of Ohio. A hand tool for cutting tapered threads on pipes comprising, in combination, a rotatable and longitudinally movable chaser-carrier, a series of radially-arranged chasers, a chaser-engaging plate rotatable with and movable independently of said chaser-carrier, a post for controlling the independent movement of said plate, said post being rotatable with said chaser-carrier but not partaking of its longitudinal travel, means with which the pipe or article being threaded is designed to engage for acting on said post to prevent it from traveling longitudinally with the chaser-carrier, and means carried by the tool for centering it on the pipe without being secured thereto.

1,056,596. Pipe-Hanger. Andrew Sidoli, Central Nyack, N. Y. In a hanger of the class described, a plate, said plate having an angle foot at its lower end, said foot being provided with a segmento-spherical socket on its upper face, a ball positioned in said socket, said socket having a longitudinal slot therein and a stem adjustably mounted in said ball and passing through said longitudinal slot.




1,056,861. Solar Heater. Thomas W. Walker, Monrovia, Cal. A solar heater, comprising a casing having a series of parallel pipes connected near their ends for directing water through their entire lengths, the ends of said pipes being free within the said casing, hollow tubes extending through the said pipes and projecting from the ends thereof, means for closing the space between the pipes and the hollow tubes, and connecting piping leading from the pipes in the casting to a suitable reservoir.

1,057,057. Pipe-Hanger. Louis A. Hoerr, St. Louis, Mo. As an article of manufacture, a pipe hanger formed of a strip having a shank portion and a pipe engaging portion, the pipe engaging portion extending helically to one side of the shank portion and adapted to embrace a pipe, said pipe engaging portion being provided with a clamping end which is adapted to be sprung onto the pipe to hold it against movement.




1,056,911. Radiator Attachment. Joseph Kinzey, Johnstown, Pa., assignor of one-fifth to Frank B. Kinzey, Johnstown, Pa. An attachment for radiators comprising a shelf or foot-rest having a depending flange along the inner edge and having longitudinal slots adjacent its inner edge, the flange having a plurality of adjoining longitudinal slots with the upper edges of the slots lying in the plane of the bottom of the shelf or foot-rest, both slidable in the slots of the shelf or foot-rest, inclined hangers having their inner ends passed through the slots in the flange and bifurcated to straddle the bolts, and having their free ends hooked in order to engage the stay rod of a radiator so that the edge of the shelf or foot-rest and the flange is seatable against the side of the radiator, and nuts engaged on


## How Plumbers Can Make More Money

THE CAMERON SYSTEM OF SEWAGE DISPOSAL PATENTED

Here's a system on which you can make a good profit.

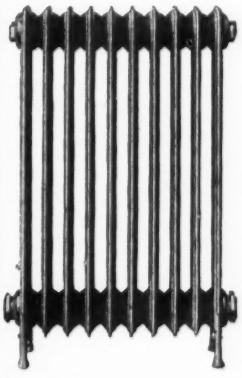
Get your customers interested in the Cameron System. Install our Septic Tanks for residences. They are proving the best way of disposing of sewage. They are the result of 14 years' experience. Made of either pure ingot iron or reinforced concrete.

Let us show you how the Cameron System of Sewage Disposal gives a bigger profit. Write for the booklet, "How Plumbers Can Make More Money."

**Barks & Barstow Mfg. Co.**

*PIERCE BUILDING, ST. LOUIS, MO.*

## A New Radiator Design—



the INVINCIBLE — is characterized by the much increased air space between sections.

This design is specially adapted for homes, hospitals, sanitariums, as well as for all other buildings where particular efforts are made to secure absolute cleanliness and high efficiency. The large open spaces between the sections permit all parts of the radiator easily to be kept as clean as a tile floor. They also permit the heating and distribution of unusually large volumes of air, which makes the INVINCIBLE particularly efficient as a heating unit. The

**Pressed Metal INVINCIBLE**

has all the other advantages of the well-known Kinnear Improved Pressed Metal Radiators, such as thin walls, about one-third the weight of a cast iron radiator of the same rated capacity, quick and positive action, uniform distribution of heat, rounded artistic appearance, and occupies little floor space.

It may be suspended from the wall—"off the floor—out of the way"—or set on legs.

*Our new 42 Page Catalogue is yours for the asking.*

**Pressed Metal Radiator Company**

General Offices: Bailey-Farrell Building, Pittsburgh, Pa.

## A Word to the Wise

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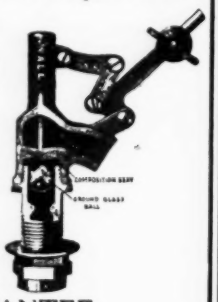

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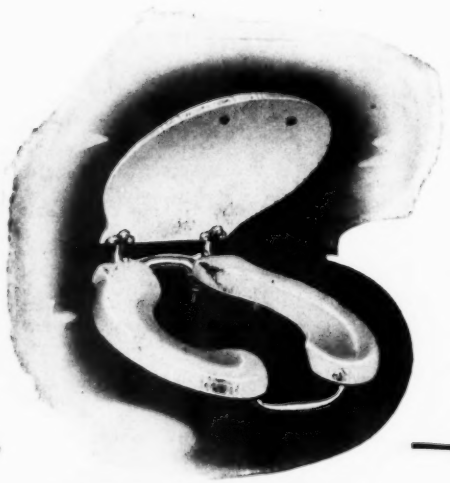

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the lower ends of the bolts and having one of their faces slidably engaging the said flange to prevent the rotation of the nuts, the inner ends of the hangers being clamped between the bottom of the shelf or foot-rest and the respective nuts.

1,057,294. Radiator. Emil Carl Friedrich Streichert, Lockport, N. Y., assignor to The Harrison Radiator Company, Lockport, N. Y., a corporation of New York. In a radiator, the combination of a pair of thin metal distance plates folded to form fins having contacting double walls of uniform width throughout connected along their outer edges, each plate being bent across its entire width to form pairs of stiffening ridges projecting from the same face of the plate as said fins to provide recessed seats for the outer edges of said fins of the other plate, and means for rigidly securing the fins of each plate in such recessed seats of the other plate.

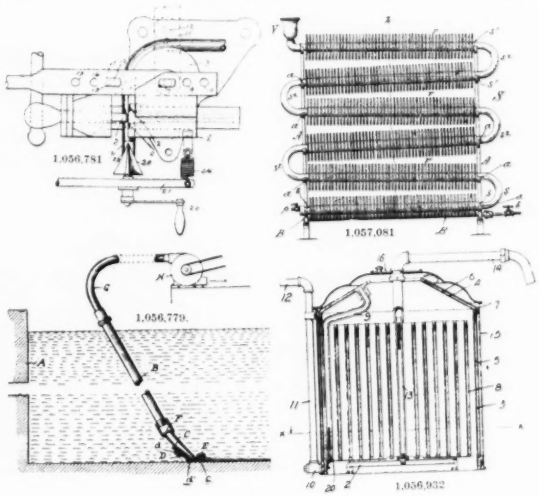
1,056,781. Pipe-Bender. John C. Devitt, Elyria, Ohio. In a pipe bending device, the combination with a bed plate, of a vise thereon, a removable die block therein, having a curved groove in its outer edge corresponding to the desired arc of the pipe elbow, a central opening in said block within said arc, a pin therethrough, and a fork pivoted upon said pin, a roller pivoted in said fork, adapted to engage the outer side of said pipe, a pivot pin for said roller, said fork provided with spaced openings in which said roller pivot is alternately insertible, said bed plate provided with corresponding pivotal openings for the pivot pin of said fork.

1,056,779. Cleaning Apparatus for Swimming Pools and the Like. John M. Davidson, Pittsburgh, Pa., assignor to Wm. B. Scaife & Sons Company, Pittsburgh, Pa., a corporation of New Jersey. In cleaning apparatus, a combined scraper and sucker head comprising a casing with an open nozzle, a rubber scraper slidably mounted on the rear and bottom of the casing, an upwardly projecting shield on the front and top of the casing, and a check valve in the casing, substantially as and for the purposes described.

1,057,081. Steam-Radiator. Alvin B. Neiman, New York, N. Y., and Albert L. Adams, Montclair, N. J., assignors to The Neiman Manufacturing Co., New York, N. Y. A combined steam generator and heat radiator comprising a sealed serpentine coil of relatively small but continuous uniform internal diameter and surface from one end to the other, the whole upper portion of the coil being inclined continuously downward and into the lower horizontal member, means for introducing water through the coil into said lower horizontal member consisting of a combined pressure relief and water supply valve connected with the extreme upper inclined end of the coil, a test cock opening into the said lower horizontal member above the longitudinal axis thereof for the purpose of prescribing the water level therein and thereby creating a steam space in the lower horizontal member above the water level, a longitudinally arranged gas burner underneath and parallel to said lower horizontal member of the coil, and hub flanged sheet metal radiation disks forced onto the peripheries of the longitudinal members of the coil with their planes at right angles to the longitudinal axis thereof whereby the radiation disks on adjoining longitudinal members of the coil are inclined with relation to each other for the purpose of deflecting air currents, the lower edges of the hub-flanged disks on the lower horizontal member of the coil being made concave to straddle the said longitudinally arranged gas burner, as shown and described.

1,056,932. Hot-Water Heater. John O. Olson, St.

Paul, and Carl S. Carlberg, Minneapolis, Minn., assignors to Spiral Radiator Company, St. Paul, Minn., a corporation of Arizona. A hot water heater, comprising a drum having double walls with a space between them forming a heating chamber, said chamber having a pipe connection in its lower portion for a water supply, a pipe communicating with the upper portion of said chamber and depending therefrom and having a discharge opening in its lower portion, a coil consisting of a flattened tube having its receiving end connected with the discharge opening of said pipe at the bottom of said coil, said coil having a series of helical convolutions formed therein with spaces between them, a centrally arranged




pipe having a closed lower end and an opening in its side wall near the top communicating with the inner end of said coil, and means connected with the upper end of said pipe and through which the water is discharged from said coil, and the walls of said first-named pipe being imperforate between its discharge opening into said coil and its connection with said chamber, and the walls of said second named pipe being imperforate below its intake connection with the inner end of said coil whereby the water will be compelled to flow around in said coil and ascend vertically therein, substantially as described.

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43,746. Water-Closet Bowl. William A. Ratcliffe, Chicago, Ill. The ornamental design for a water closet bowl as shown.

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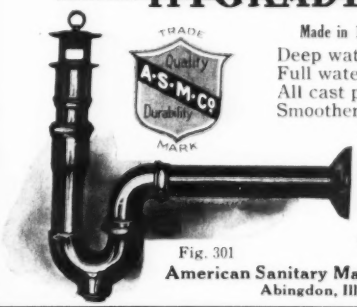


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Fig. 301

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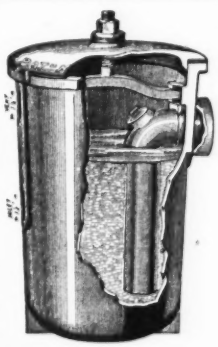

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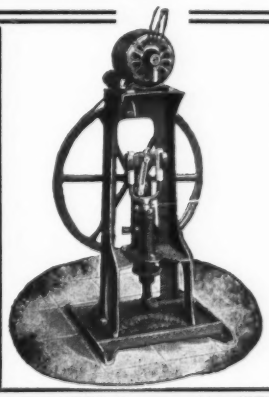

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